THE SCIENCE OF LANGUAGE

FOUNDED ON

LECTURES DELIVERED AT THE ROYAL INSTITUTION

IN 1861 AND 1863

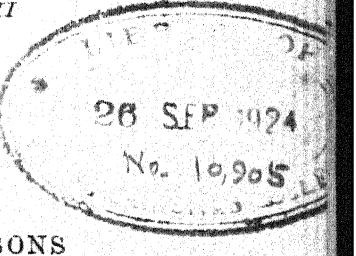
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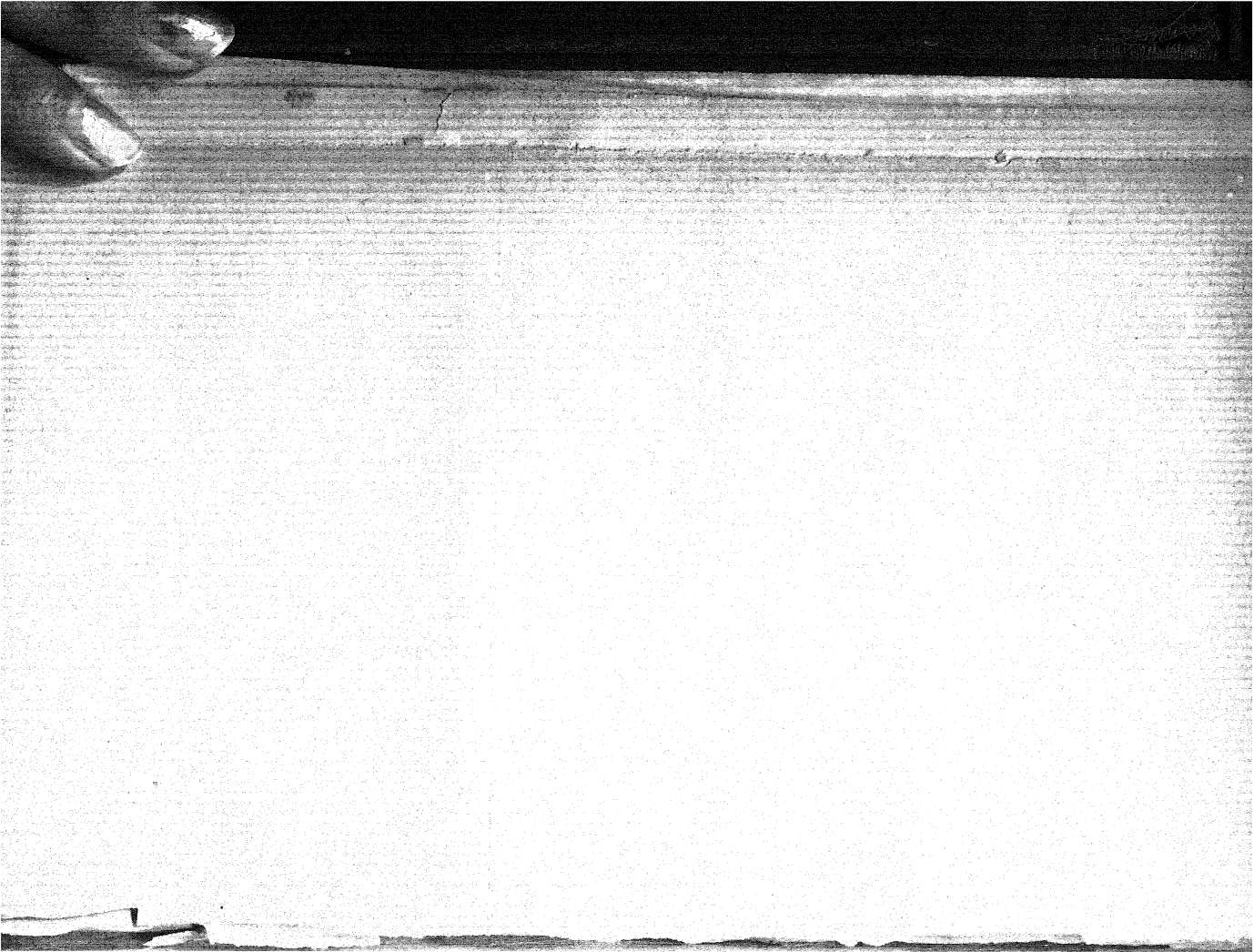
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THE SCIENCE OF LANGUAGE.

CHAPTER I.

NEW MATERIALS FOR THE SCIENCE OF LANGUAGE.

IT can no longer be doubted that the language which we speak, and the languages that are and that have been spoken in every part of our globe since the first dawn of human life and human thought, supply materials capable of scientific treatment. We can collect them, we can classify them, we can by scientific analysis reduce them to their constituent elements, and thus discover some of the laws that determine their origin, govern their growth, and necessitate their decay. We can treat them, in fact, in exactly the same spirit in which the geologist treats his stones and petrifactions,—nay, in some respects, in the same spirit in which the astronomer treats the stars of heaven, or the botanist the flowers of the field. There *is* a Science of Language as there is a science of the earth, its flowers and its stars; and though, as a young science, it is very far as yet from that perfection which—thanks to the efforts of the intellectual giants of so many ages and many countries—has been reached in astronomy, botany, and even in geology, it

is, perhaps for that very reason, all the more fascinating. It is a young and a growing science, that puts forth new strength with every year, that opens new prospects, new fields of enterprise on every side, and rewards its students with richer harvests than could be expected from the exhausted soil of the older sciences. The whole world is open, as it were, to the student of language. There is virgin soil close to our door, and there are whole continents still to conquer, if we step beyond the frontiers of the ancient seats of civilisation. We may select a small village in our neighbourhood to pick up dialectic varieties, and to collect phrases, proverbs, and stories which will disclose fragments, almost ground to dust, it is true, yet undeniable fragments of the earliest formations of Saxon speech and Saxon thought.[1] Or we may proceed to our very antipodes, and study the idiom of the Hawaian islanders, and watch in the laws and edicts of Kaméhaméha the working of the same human faculty of speech which, even in its most primitive efforts, never seems to miss the high end at which it aims. The dialects of ancient Greece, ransacked as they have been by classical scholars, such as Maittaire, Giese, and Ahrens, will amply reward a fresh *battue* of the comparative philologist. Their forms, which

[1] An essay 'On some leading Characteristics of the Dialects spoken in the Six Northern Counties of England, or Ancient Northumbria, and on the Variations in their Grammar from that of Standard English,' has been published by Mr. R. P. Peacock, Berlin, 1863. It is chiefly based on the versions of the Song of Solomon into many of the dialects of England, which have of late years been executed and published under the auspices of H.I.H. Prince Louis-Lucien Bonaparte.

to the classical scholar were mere anomalies and curiosities, will thus assume a different aspect. They will range themselves under more general laws, and after receiving light by a comparison with other dialects, they will, in turn, reflect that light with increased power on the phonetic peculiarities of Sanskrit and Prâkrit, Zend and Persian, Latin and French.

But even were the old mines exhausted, the Science of Language would create its own materials, and as with the rod of the prophet smite the rocks of the desert to call forth from them new streams of living speech. The rock inscriptions of Persia show what can be achieved by our science. I do not wonder that the discoveries due to the genius and the persevering industry of Grotefend, Burnouf, Lassen, and last, not least, of Rawlinson, should seem incredible to those who only glance at them from a distance. Their incredulity will hereafter prove the greatest compliment that could have been paid to these eminent scholars.[1] What we at present call the cuneiform inscriptions of Cyrus, Darius, Xerxes, Artaxerxes I., Darius II.,

[1] A thoroughly scholar-like answer to the late Sir G. C. Lewis's attacks on Champollion and other decipherers of ancient inscriptions may be seen in an article by Professor Le Page Renouf, 'Sir G. C. Lewis on the Decipherment and Interpretation of Dead Languages,' in the *Atlantis*, Nos. vii. and viii. p. 23. Though it cannot be known now whether the late Sir G. C. Lewis ever modified his opinions as to the soundness of the method through which the inscriptions of Egypt, Persia, India, and ancient Italy have been deciphered, such was the uprightness of his character that he would certainly have been the first to acknowledge his mistake, had he been spared to continue his studies. Though his scepticism was occasionally uncritical and unfair, his loss is a severe loss to our studies, which, more than any others, require to be kept in order by the watchful eye and uncompromising criticism of close reasoners and sound scholars.

Artaxerxes Mnemon, Artaxerxes Ochus (of which we now have several editions, translations, grammars, and dictionaries)—what were they originally? A mere conglomerate of wedges, engraved or impressed on the solitary monument of Cyrus in the Murghab, on the ruins of Persepolis, on the rocks of Behistun near the frontiers of Media, and the precipice of Van in Armenia. When Grotefend attempted to decipher them, he had first to prove that these scrolls were really inscriptions, and not mere arabesques or fanciful ornaments.[1] He had then to find out whether these magical characters were to be read horizontally or perpendicularly, from right to left, or from left to right. Lichtenberg maintained that they must be read in the same direction as Hebrew. Grotefend, in 1802, proved that the letters followed each other, as in Greek, from left to right. Even before Grotefend, Münter and Tychsen had observed that there was a sign to separate the words. Such a sign is of course an immense help in all attempts at deciphering inscriptions, for it lays bare at once the terminations of hundreds of words, and, in an Aryan language, supplies us with the skeleton of its grammar. Yet consider the difficulties that had still to be overcome before a single line could be read. It was unknown in what language these inscriptions were composed; it might have been a Semitic, a Turanian, or an Aryan language. It was unknown to what period they belonged, and whether they commemorated the

[1] *Mémoire de M. le comte de Caylus, sur les ruines de Persepolis, dans le tome XXIX des Mémoires de l'Académie des inscriptions et belles-lettres, Histoire de l'Académie*, p. 118.

conquests of Cyrus, Darius, Alexander, or Sapor. It was unknown whether the alphabet used was phonetic, syllabic, or ideographic. It would detain us too long were I to attempt to explain here how all these difficulties were removed one after the other; how the proper names of Darius, Xerxes, Hystaspes, and of their god Ormazd, were traced; how from them the values of certain letters were determined; how with an imperfect alphabet other words were deciphered which clearly established the fact that the language of these inscriptions was ancient Persian; how then, with the help of the Zend, which represents the Persian language previous to Darius, and with the help of the later Persian, a most effective cross-fire was opened; how even more powerful ordnance was brought up from the arsenal of the ancient Sanskrit; how outpost after outpost was driven in, a practical breach effected, till at last the fortress had to surrender and submit to the terms dictated by the Science of Language.

It was a most glorious siege and a most glorious victory. At present I only refer to it in order to show how, in all quarters of the globe, and from sources where it would least be expected, new materials are forthcoming that would give employment to a much larger class of labourers than the Science of Language can as yet boast of. The inscriptions of Babylon and Nineveh, the hieroglyphics of Egypt, the records in the caves of India, on the monuments of Lycia, on the tombs of Etruria, and on the broken tablets of Umbria and Samnium, all wait to have their spell broken or their riddle more satisfactorily read

by the student of language. If, then, we turn our eyes again to the yet unnumbered dialects now spoken by the nomad tribes of Asia, Africa, America, and the islands of the Pacific, no scholar need be afraid for some generations to come that there will be no language left for him to conquer.

General Principles of the Science of Language contested.

There is another charm peculiar to the Science of Language, or one, at least, which it shares only with its younger sisters: I mean the vigorous contest that is still carried on between great opposing principles. In Astronomy, the fundamental laws of the universe are no longer contested, and the Ptolemæan system is not likely to find new supporters. In Geology, the feuds between the Vulcanists and the Neptunists have come to an end, and no unprejudiced person doubts at the present moment whether an ammonite be a work of nature and a flinthead a work of art. It is different in the Science of Language. Here, the controversies about the great problems have not yet subsided. The questions whether language is a work of nature or a work of art, whether languages had one or many beginnings, whether they can be classified in families, or no, are constantly starting up; and scholars, even while engaged in the most minute inquiries—while carrying brick and mortar to build the walls of their new science—must have their sword girded by their side, always ready to meet the enemy. This, no doubt, may sometimes be tedious, but it has one good effect—it leads us to examine carefully the ground on which we take our stand, and keeps us alive, even

while analysing mere prefixes and suffixes, to the grandeur and the sacredness of the issues that depend on these minutiæ. The foundations of our science do not suffer from such attacks; on the contrary, like the coral cells built up quietly and patiently from the bottom of the sea, they become more strongly cemented by these whiffs of spray that are dashed across them.

Much useless controversy has been carried on, for instance, as to whether the Science of Language is to be treated as a physical science or not. I thought I had made it sufficiently clear in what sense it may be so treated, and in what sense it should be ranged among the historical sciences. But there is a charm in controversy which to a certain class of scholars seems irresistible. They ignore your definitions, and then show that you have been quite wrong. They have nothing new to say, but they repeat the old arguments with all the emphasis of a real discoverer. However, though different scholars may take different views on this point, one thing seems to me clearer than ever, namely, that, without the Science of Language, the circle of the physical sciences, would remain for ever incomplete. The whole natural creation tends towards man: without man nature would be purposeless. The Science of Man, therefore, or, as it is sometimes called, Anthropology, must form the crown of all the natural sciences. And if it is language by which man differs from all other created things, the Science of Language has a right to hold that place which I claimed for it from the first. I may here quote the words of one whose memory

becomes more dear and sacred to me with every year, and to whose friendship I owe more than I here could say. Bunsen, when addressing, in 1847, the newly-formed section of Ethnology, at the meeting of the British Association at Oxford, said:—

> If man is the apex of the creation, it seems right, on the one side, that an historical inquiry into his origin and development should never be allowed to sever itself from the general body of natural science, and in particular from physiology. But, on the other hand, if man is the apex of the creation; if he is the end to which all organic formations tend from the very beginning; if man is at once the mystery and the key of natural science; if that is the only view of natural science worthy of our age, then ethnological philology, once established on principles as clear as the physiological are, is the highest branch of that science for the advancement of which this Association is instituted. It is not an appendix to physiology or to anything else; but its object is, on the contrary, capable of becoming the end and goal of the labours and transactions of a scientific association.[1]

Special Departments of the Science of Language re-examined.

But while the general principles which ought to guide the study of the Science of Language may be considered as fairly settled, great diversity of opinion continues to prevail when we come to its special departments.

It might have been supposed that Bopp's theory of a relationship between Aryan and Malayo-Polynesian languages was by this time consigned to oblivion. But, undeterred by Bopp's failure, Dr. J. Rae, in some

[1] *Report of the British Association for the Advancement of Science*, 1847, p. 257.

papers printed at Honolulu,[1] has propounded the same theory afresh, 'that all those tongues which we designate as the Indo-European languages have their true root and origin in the Polynesian language.' 'I am certain,' the author writes, 'that this is the case as regards the Greek and Sanskrit: I find reason to believe it to be so as to the Latin and other more modern tongues—in short, as to all European languages, old and young.' And he proceeds: 'The second discovery which I believe I have made, and with which the former is connected, is that the study of the Polynesian language gives us the key to the original function of language itself, and to its whole mechanism.'

Strange as it may sound to hear the language of Homer and Ennius spoken of as an offshoot of the Sandwich Islands, mere ridicule would be a very inappropriate and very inefficient answer to such a theory. It is after all not so very long ago that all the Greek and Latin scholars of Europe shook their heads at the idea of tracing the roots of the classical languages back to Sanskrit; and even at the present moment there are still many persons who cannot realise the fact that, at a very remote, but a very real period in the history of the world, the ancestors of the Homeric poets and of the poets of the Veda must have lived together as members of one and the same race, as speakers of one and the same idiom, and as believers in the same gods.

[1] *The Polynesian:* Honolulu, Sept. 27, Oct. 4, Oct. 11, 1862—containing an essay by Dr. J. Rae. Similar attempts have since been made by several writers, but without achieving any greater success than Bopp.

There are other theories not less startling than this which would make the Polynesian the primitive language of mankind. In his Comparative Grammar of the South-African Languages, printed at the Cape, Dr. Bleek,[1] a most learned and ingenious scholar, tried to prove that, with the exception of the Bushman tongue, which had not yet been sufficiently studied by him, the great mass of African languages may be reduced to two families. He tries to show that the Hottentot is a branch of the North African class of languages,[2] and that it was separated from its relatives by the intrusion of the second great family,

[1] *A Comparative Grammar of the South African Languages*, by H. J. Bleek, Ph.D. 1862.

[2] When the Rev. R. Moffat was in England, he met with a Syrian who had recently arrived from Egypt, and in reference to whom Mr. Moffat has the following note:—'On my giving him a specimen and a description of the Hottentot language, he remarked that he had seen slaves in the market of Cairo, brought a great distance from the interior, who spoke a similar language, and were not near so dark-coloured as slaves in general. This corroborates the statement of ancient authors, whose description of a people inhabiting the interior regions of Northern Africa answers to that of the Hottentot and Bushman.'—'It may be conceived as possible, therefore, that the people here alluded to form a portion of the Hottentot race, whose progenitors remained behind in the interior country, to the south or south-west of Egypt, whilst the general emigration continued its onward course. Should this prove not incorrect, it might be reasonably conjectured that Egypt is the country from which the Hottentot tribes originally came. This supposition, indeed, is strengthened by the resemblance which appears to subsist between the Copts and Hottentots in general appearance.' (Appleyard, *The Kafir Language*. 1850.) 'Since the Hottentot race is known only as a receding one, and traces of its existence extend into the interior of South Africa, it may be looked upon as a fragment of the old and properly Ethiopic population, stretched along the mountain-spine of Africa, through the regions now occupied by the Galla; but cut through and now enveloped by tribes of a different stock.' (J. C. Adamson, in *Journal of the American Oriental Society*, vol. iv. p. 449. 1854.)

the Kafir, or, as Appleyard calls them, *Alliteral* languages, which occupy (as far as our knowledge goes) the whole remaining portion of the South African continent, extending on the eastern side from the Keiskamma to the equator, and on the western side from 32° southern to about 8° northern latitude. But the same author claims likewise a very prominent place for the African idioms, in the general history of human speech. 'It is perhaps not too much to say,' he writes (preface, page viii.), 'that similar results may at present be expected from a deeper study of such primitive forms of language as the Kafir and the Hottentot exhibit, as followed at the beginning of the century, the discovery of Sanskrit, and the comparative researches of Oriental scholars. The origin of the grammatical forms, of gender and number, the etymology of pronouns, and many other questions of the highest interest to the philologist, find their true solution in Southern Africa.'

But, while we are thus told by some scholars that we must look to Polynesia and South Africa if we would find the clue to the mysteries of Aryan speech, we are warned by others that there is no such thing as an Aryan or Indo-European family of languages, that Sanskrit has no relationship with Greek, and that Comparative Philology, as hitherto treated by Bopp and others, is but a dream of continental professors.[1]

[1] See Mr. John Crawfurd's essay *On the Aryan or Indo-Germanic Theory*, and an article by Professor T. Hewitt Key in the *Transactions of the Philological Society*, 'The Sanskrit Language, as the Basis of Linguistic Science, and the Labours of the German School in that field, are they not overvalued?' An unfounded accusation by Professor Key was answered in the *Academy*, 1874, p. 48.

In other departments too we are met with similar controversies. While some scholars represent Akkadian as the true Sanskrit of the North Turanian or Ural-Altaic languages, others deny that it is a language, and look upon it merely as a peculiar system of writing. While Etruscan has been represented as Aryan, as Semitic, and as Bask, a recent writer has asserted its relationship with Finnish, and the same Finnish has been proclaimed as the true source of the whole family of Aryan speech.

How are theories and counter-theories of this kind to be treated? However startling and paradoxical in appearance, they must be carefully examined before we can either accept or reject them. 'Science,' as Bunsen[1] said, 'excludes no suppositions, however strange they may appear, which are not in themselves absurd—viz. demonstrably contradictory to its own principles.'

But by what tests and rules are they to be examined? They can only be examined by those tests and rules which the Science of Language has established in its more limited areas of research. 'We must begin,' as Leibniz said, 'with studying the modern languages which are within our reach, in order to compare them with one another, to discover their differences and affinities, and then to proceed to those which have preceded them in former ages; in order to show their filiation and their origin, and then to ascend step by step to the most ancient of tongues, the analysis of which must lead us to the

[1] *L. c.* p. 256.

only trustworthy conclusions.' The principles of comparative philology must rest on the evidence of the best known and the best analysed dialects, and it is to them that we must look, if we wish for a compass to guide us through the most violent storms and hurricanes of philological speculation.[1]

I believe there is no science from which we, the students of language, may learn more than from Geology. Now, in Geology, if we have once acquired a general knowledge of the successive strata that form the crust of the earth, and of the faunas and floras present or absent in each, nothing is so instructive as the minute exploration of a quarry close at hand, of a cave or a mine, in order to see things with our own eyes, to handle them, and to learn how every pebble that we pick up points a lesson of the widest range. I believe it is the same in the science of language. *One* word, however common, of our own dialect, if well examined and analysed, will teach us more than the most ingenious speculations on the nature of speech and the origin of roots. We may accept it, I believe, as a general principle, that what is real in modern formations is possible in more ancient formations; that what has been found to be true on a small scale may be true on a larger scale. There is analogy in language everywhere, and there is an unbroken continuity between the most ancient and the most modern forms of speech. Principles like these, which underlie the study of Geology, are equally applicable to the study of Philology, though in their application they require, no doubt, the same circum-

[1] *Lectures on the Science of Language*, First Series, p. 145.

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[1] *Lectures on the Science of Language*, First Series, p. 145.

spectness which is the great charm of geological reasoning.

What is real in Modern is possible in Ancient Languages.

A few instances will make my meaning clearer by showing how the solution of some of the most difficult problems of Comparative Grammar may be found at our very door, and how theories that would seem fanciful and incredible, if applied to the analysis of ancient languages, stand before us as real and undeniable facts in the words which we use in our every-day conversation. They will at the same time serve as a warning against too rapid generalisation, both on the part of those who have no eye for distinctive features and see nothing but similarity in all the languages of the world, and on the part of those who can perceive but one kind of likeness, and who would fain confine the whole ocean of living speech within the narrow bars of Aryan or Semitic grammar.

A-going.

We have not very far to go in order to hear such phrases as 'he is a-going, I am a-coming, &c.,' instead of the more usual 'he is going, I am coming.' Now the fact is, that the vulgar or dialectic expression, 'he is a-going,' is far more correct than 'he is going.'[1] *Ing*, in our modern grammars, is called the termination of the participle present, but it does not exist as such in Anglo-Saxon. In Anglo-Saxon the termination of that participle is *ande* or *inde* (Gothic, *and-s*; Old

[1] Archdeacon Hare, *Words corrupted by False Analogy or False Derivation*, p. 65.

High-German *ant-'r*, *ent-'r*; Middle High-German, *end-e*; Modern High-German, *end*). This was preserved as late as Gower's and Chaucer's time,[1] though in most cases it had then already been supplanted by the termination *ing*.[2] Now what is that termination *ing*?[3] It is clearly used in two different senses, even in modern English. If we say 'a loving child,' loving is a verbal adjective. If we say 'loving our neighbour is our highest duty,' loving is a verbal substantive. Again, there are many substantives in *ing*, such as *building*, *wedding*, *meeting*, where the verbal character of the substantive is almost, if not entirely, lost.

Now, if we look to Anglo-Saxon, we find the termination *ing* used—

(1) To form patronymics—for instance, *Godwulfing*, the son of *Godwulf*. In the A. S. translation of the Bible, the son of *Elisha* is called *Elising*. In the plural these patronymics frequently become the names of families, clans, villages, towns, and nations, e. g. *Thyringas*, the Thuringians. Even if names in *ing* are derived from names of rivers or hills or trees, they may still be called patronymics, because in ancient times the ideas of relationship and descent were not confined to living beings.[4] People living near the Elbe might well be called the sons of the Elbe or Albings, as, for

[1] Pointis and sleves be wel sittánde
Full right and straight upon the hande.
Rom. of the Rose, 2264.

[2] Grimm, *Geschichte der Deutschen Sprache*, p. 666.

[3] Grimm, *Deutsche Grammatik*, ii. 348–365.

[4] See Förstemann, *Die Deutschen Ortsnamen*, p. 244; and *Zeitschrift für Vergleichende Sprachforschung*, i. 109.

instance, the Nordalbingi in Holstein. Many of the geographical names in England and Germany were originally such patronymics. Thus we have the villages[1] of *Malling*, of *Billing*, &c., or in compounds, *Mallington*, *Billingborough*. In *Walsingham*, the home of the *Walsings*, the memory of the famous race of the *Wælsings* may have been preserved, to which Siegfried belonged, the hero of the Nibelunge.[2] In German names, such as *Göttingen* in Hanover, *Harlingen* in Holland, we have old datives plural, in the sense of 'among the Gottings, or, near the home of the Harlings,' &c.[3]

What we call patronymics, however, are not only words derived from the name of a father, but likewise words expressing any kind of relationship or nearness. Thus *Buccingas* need not be taken as the sons of the beech, or, as has actually been suggested, as a clan having the beech for its totem, but simply as men from the beeches, i. e. living among the beeches. Hence *Buckingham*, the home of the beech-men. In like manner the *Bircingas* were men from the birches,

[1] Latham, *History of the English Language*, i. p. 223; Kemble, *Saxons in England*, i. p. 59, and Appendix, p. 449.

[2] Grimm, *Deutsche Heldensage*, p. 14.

[3] Harlings, in A.S. Herelingas (*Trav. Song*, i. 224), Harlunge (W. Grimm, *Deut. Heldensage*, p. 280, &c.), are found at Harling in Norfolk and Kent, and at Harlington (Herelingatún) in Bedfordshire and Middlesex. The Wælsings, in Old Norse Völsungar, the family of Sigurd or Siegfried, reappear at Walsingham in Norfolk, Wolsingham in Northumberland, and Woolsingham in Durham. The Billings at Billinge, Billingham, Billinghoe, Billinghurst, Billingden, Billington, and many other places. The Thyringas, in Thorington or Thorrington, are likely to be offshoots of the great Hermunduric race, the Thyringi or Thoringi, now Thuringians, always neighbours of the Saxons.—Kemble, *Saxons in Engl.*, i. pp. 59 and 63. Grimm, Deutsche Gram., II, 349.

Asscingas, men from the ashes; and a name such as *Dartington* has to be explained as the town of the Dartings, i. e. the men living on the river Dart.[1]

(2) *Ing* is used to form more general attributive words, such as, *æþeling*, a man of rank; *lyteling*, an infant; *nîðing*, a bad man. This *ing* being frequently preceded by another suffix, the *l*, we arrive at the very common derivative *ling*, in such words as *darling*, *hireling*, *yearling*, *foundling*, *nestling*, *worldling*, *changeling*. It is doubtful, in fact, whether even in such words as *æþeling*, *lyteling*, derived from *æþel* and *lytel*, the suffix is not rather *ling* than *ing*, and whether the original spelling was not *æþelling* and *lytelling*. *Farthing*, too, is a corruption of *feorðling*, German *vierling*.

It has been supposed that the modern English participle was formed by the same derivative, but in A.S. the suffix *ing* is (as a rule)[2] attached to nouns and adjectives, and not to verbs. There was, however, another derivative in A.S., which was attached to verbs in order to form verbal substantives. This was *ung*, the German *ung*. For instance, *clænsung*, cleansing; *beácnung*, beaconing, beckoning, &c. In early A.S. these abstract nouns in *ung* are far more numerous than those in *ing*.[3] *Ing*, however, began soon to encroach on *ung*, and at present no trace is

[1] See several articles in the *Athenæum* of 1885, pp. 152, 183, 216, 312.

[2] See Koch, *Historische Grammatik der Englischen Sprache*, vol. iii. § 103.

[3] See Koch, *Historische Grammatik der Englischen Sprache*, vol. iii. § 106.

left in English of substantives derived from verbs by means of *ung*.

Although, as I said, it might seem more plausible to look on the modern participle in English as originally an adjective in *ing*, such popular phrases as *a-going, a-thinking*, point rather to the verbal substantives in *ing* as the source from which the modern English participle was derived. 'I am going' is in reality a corruption of 'I am a-going,' i.e. 'I am on going,' and the participle present would thus, by a very simple process, be traced back to a locative case of a verbal noun.[1]

It has been objected that the preposition *a* in *a-going* cannot be arbitrarily dropt before a case dependent on it, least of all in languages deprived of the power of their original inflections. This assertion is bold, but it is not true. If we confine ourselves to a comparison of Anglo-Saxon with English, and to the very preposition *on*, we find in Anglo-Saxon *on bæc*, at the back; in later English, *a back*; and at last *back*. *Go back* stands for *go aback*.

Again, we read in Shakespeare:—

> The spring is near when green geese are *a breeding*.
> (*Love's Labour's Lost*, i. 1.)
> There are worthies *a coming*. (*Ibid.* v. 2.)
> Like a German clock, still *a repairing*, ever out of frame.
> (*Ibid.* iii. 1.)

[1] Cf. Garnett's paper 'On the Formation of Words from Inflected Cases,' *Philological Society*, vol. iii. No. 54, 1847. Garnett compares the Welsh *yn sefyll*, in standing, Ir. *ag seasamh*, on standing, the Gaelic *ag sealgadh*. The same ingenious scholar was the first to propose the theory of the participle being formed from the locative of a verbal noun.

In all these cases a modern English poet would drop the preposition *a*, which stands for Anglo-Saxon *on*. (See Mätzner, *Englische Grammatik*, i. p. 400.)

It has likewise been objected, and not without ingenuity, that if *I am beating* were an abbreviation of *I am a beating*, it could not govern the accusative, because no substantive in *ing* can govern the accusative. This assertion is again bold, but it is not true. In such phrases as 'after flogging him, by flogging him, by means of flogging him,' flogging is surely a verbal substantive in *ing*, whatever theory we adopt about such phrases as 'he was flogging him.' Substantives in *ing*, therefore, certainly can govern the accusative. And if we can say 'he was repairing,' instead of 'he was a repairing,' we can likewise say 'he was repairing the clock,' instead of 'he was a repairing the clock.'

It would, no doubt, be far simpler if *ing*, the modern termination of the participle present in English, could be taken, as it used to be, as a mere phonetic corruption of the Anglo-Saxon termination *ende*. A change from *ende* to *ing*, however, is without any analogy in English, and scholars who wished to maintain it at all hazards, could bring nothing better in support of it than the spoken dialect of *Henneberg*, in which we have been told over and over again, a similar consonantal change has taken place.

Now here we must guard against too rapid generalisation. First of all, phonetic changes between Anglo-Saxon and English cannot be accounted for by an analogy taken from the dialect of Henneberg.

They must be explained according to phonetic laws peculiar to the language of England, or to other Low-German dialects, but not according to those of one out of many High-German dialects which are supposed to contain some admixture of Low-German elements.

Secondly, what has to be explained is not only the consonantal change from *ende* to *ing*, which is said to have taken place in the dialect of Henneberg, but the co-existence of participles in *ende* and *ing*. The two texts of Layamon vary between *singinge* and *singende*, *sechinge* and *sechende*; and while in v. 26,946, text A has *ing*, and B *ende*, the case is reversed in v. 1,383, where A has *ende*, and B *inge*. We even meet in text B with such phrases as *ne goinde ne ridinge*. (Koch, *Grammatik der Englischen Sprache*, i. p. 342.) Is this the case in the dialect of Henneberg? Do we really find there the two forms used by the same speaker, or do we witness a consonantal change from the old Hennebergian participle in *ende* to the modern Hennebergian participle in *ing*? All that can be gathered from Reinwald (*Hennebergisches Idiotikon*) is that '*ing* is not scarce, but on the contrary the regular active participle of our people.' Supposing, therefore, that all was right in Henneberg, we should only have before us another problem, another form that requires explanation, but we should by no means have witnessed a consonantal change from *ende* to *ing*. To explain the English *ing* by the Hennebergian *ing* would be to explain *ignotum per ignotius*.

And, lastly, are there really any participles in *ing*

to be found in Henneberg? Grimm said so, and, with their usual sequacity, other scholars have repeated it after him. Now Grimm for once has made a mistake. The termination of the participle in English is *ing*, and this *ing* is attached to the verbal base, like the termination *ung* which it has supplanted. The same applies to the participial termination *nde*. It is always attached to the base, not to the infinitive. Hence in Anglo-Saxon, *bër-an*, to bear, and *bër-e-nde*, bearing; in German, *lieb-en*, to love, *lieb-end*, loving. What do we find in Henneberg? Reinwald gives such instances as *schlaffe-ning*, *schlaf-end*, sleep-ing; *blinzer-ning*, *blinzel-nd*, blink-ing; *lache-ning*, *lach-end*, laugh-ing; *förchte-ning*, *fürcht-end*, fear-ing. And he adds distinctly: '*ing* is not attached to the root, but to the complete High-German infinitive; or, if we cannot admit that the people of Henneberg recognised such an infinitive, *en* or *n* is inserted between their popular infinitive and the termination *ing*.'

Thus vanishes this much talked-of Hennebergian participle in *ing*! We never find there the suffix *ing* replacing *end* in the participle of the present, but we find a suffix *ning*.[1] We never find the consonantal change from *nde* to *ing*; but if *ning* in Henneberg represented an original *nde*, we should really have to admit a change from *de* to *ing*.[2]

[1] *Törmeling*, *taumelnd*, Reinwald, vol. ii. p. 13, is a misprint for *törmelning*; see vol. i. p. 169, and pref. p. ix.

[2] Bopp's theory of the English participle in *ing* is this:—'In English,' he writes, 'and frequently in Anglo-Saxon too, *ing* takes the place of the German *ung* in the formation of abstract substantives. As adjectives, the forms in *ing* have entirely supplanted in modern English the old participle in *end*, while in Middle English forms in *end* and *ing*

One more word about Henneberg! In the dialect of Henneberg the substantive termination *ung* is pronounced *ing*. We find *Übing*, *Verwässeling*, *Verwonnering*, instead of Übung, Verwechselung, Verwunderung. This is the only light which the Thuringian dialect throws on the change of Anglo-Saxon *ung* into English *ing*, though, as Grimm remarked, the suffix *ing* extends far beyond Thuringia.

We may now accept it as a fact, that the place of the participle present may, in the progress of dialectic regeneration, be supplied by the locative, or some other case of a verbal noun.

Now let us look to French. On June 3, 1679, the French Academy decreed that the participles present should no longer be declined.[1]

What was the meaning of this decree? Simply what may now be found in every French grammar, namely, that *commençant*, *finissant*, are indeclinable when they have the meaning of the participle present, active or neuter; but that they take the terminations of the masculine and feminine, in the singular and

exist still together. I do not believe, therefore, as Grimm supposes in the second part of his *Grammar* (p. 356), that *ing* in the English participles is a corruption of *end*, because *e* does not easily change to *i*, *i* being more frequently a corruption of *e*.' If verbal adjectives in *ing* existed in Anglo-Saxon, Bopp's theory would certainly remove all difficulties. We should then have to admit two forms, substantives in *ung* and adjectives in *ing*, converging into the modern English participle in *ing*. But no such adjectives exist in Anglo-Saxon, and I do not see how to explain their sudden appearance except by adopting the theory of the late Mr. Garnett.

[1] Cf. Egger, *Notions élémentaires de Grammaire comparée:* Paris, 1856, p. 197. 'La règle est faite. On ne déclinera plus les participes présents.'—B. Jullien, *Cours supérieur*, i. p. 186.

plural, if they are used as adjectives.[1] But what is the reason of this rule? Simply this, that *chantant*, if used as a participle, is not the Latin participle present *cantans*, but the so-called gerund; that is to say, the oblique case of a verbal noun, the Latin *cantando*, corresponding to the English *a-singing*, while the real Latin participle present, *cantans*, is used in the Romance languages as an adjective, and takes the feminine termination—for instance, '*une femme souffrante*,' &c.

Here, then, we see once more that in analytical languages the idea conveyed by the participle present can be expressed by the oblique case of a verbal noun.

Let us now proceed to a more distant, yet to a cognate language, the Bengali. We there[2] find that the so-called infinitive is formed by te, which te is at the same time the termination of the locative singular. Hence the present, Karite*k*i, I am doing, and the imperfect, Karite*k*ilâm, I was doing, are mere compounds of â*k*i, I am, â*k*ilâm, I was, with what may be called a participle present, but what is in reality a verbal noun in the locative. Karite*k*i, I do, means 'I am on doing,' or 'I am a-doing.'

Now the question arises, Does this perfectly intelligible method of forming the participle from the oblique case of a verbal noun, and of forming the present indicative by compounding this verbal noun with the auxiliary verb 'to be,' supply us with a test

[1] Diez, *Vergleichende Grammatik der Romanischen Sprachen*, ii. p. 114.

[2] M. M.'s. Essay on the Relation of the Bengali to the Aryan and Aboriginal Languages of India. *Report of the British Association for the Advancement of Science* 1847, pp. 344-45. Cf. Garnett, *l. c.* p. 29.

that may be safely applied to the analysis of languages which decidedly belong to a different family of speech? Let us take the Bask, which is certainly neither Aryan nor Semitic, and which has thrown out a greater abundance of verbal forms than almost any known language.[1] Here the present is formed by what is called a participle, followed by an auxiliary verb. This participle, however, is formed by the suffix *an*, and the same suffix is used to form the locative case of nouns. For instance, *mendia*, the mountain; *mendiaz*, from the mountain; *mendian*, in the mountain; *mendico*, for the sake of the mountain. In like manner, *etchean*, in the house: *ohean*, in the bed. If, then, we examine the verb,

erorten niz, I fall;
„ hiz, thou fallest;
„ da, he falls;

we see again in *erorten* a locative, or, as it is called, a positive case of the verbal substantive *erorta*, the root of which would be *eror*, falling;[2] so that the indicative present of the Bask verb does not mean either *I fall*, or *I am falling*, but was intended originally for 'I (am) in the act of falling,' or, to return to the point from whence we started, *I am on falling*, *I am a-falling*, *I am falling*.

This must suffice as an illustration of one of the principles on which the Science of Language rests, viz. that what is real in modern formations must be

[1] See Inchauspe's *Le Verbe basque*, published by Prince Louis-Lucien Bonaparte. Bayonne, 1858.

[2] Cf. *Dissertation critique et apologétique sur la Langue basque* (par l'abbé Darrigol). Bayonne, p. 102.

admitted as probable, or at least as possible, in more ancient formations, and that what has been found to be true on a small scale may be true on a larger scale.

The Limits of Analogy.

But the same illustration may also serve as a warning. There is much in the science of language to tempt us to overstep the legitimate limits of inductive reasoning. We may infer from the known to the unknown in language tentatively, but not positively. It does not follow, even within so small a sphere as the Aryan family of speech, that what is possible in French is possible in Latin, that what explains Bengali will explain Sanskrit; nay, the similarity between some of the Aryan languages and the Bask in the formation of their participles should be considered as an exceptional case. Mr. Garnett, however, after establishing the principle that the participle present may be expressed by the locative of a verbal noun, endeavours in his excellent paper to show that the original Indo-European participle, the Latin *amans*, the Greek *typtōn*, the Sanskrit bodhat, were formed on the same principle:—that they are all inflected cases of a verbal noun. In this, I believe, he has failed,[1] as many have failed before and after him, by imagining that what has been found to be true in one portion of the vast kingdom of speech

[1] He takes the Sanskrit dravat as a possible ablative, likewise sas-at, and tan-vat (sic). It would be impossible to form ablatives in ăt (as) from verbal bases raised by the vikaraṇas of the special tenses, nor would the ablative be so appropriate a case as the locative, for taking the place of a verbal adjective.

must be equally true in all. This is not so, and cannot be so.

Different treatment for different stages of language.

Though language is governed by intelligible principles throughout the whole of its growth, its progress is not so uniform as to repeat exactly the same phenomena at every stage. As the geologist looks for different characteristics when he has to deal with London clay, with Oxford clay, or with old red sandstone, the student of language, too, must be prepared for different formations, even though he confines himself to one stage only in the history of language, the *inflectional*. And if he steps beyond this, the most modern stage, then to apply indiscriminately to the lower stages of human speech, to the *agglutinative* and *radical*, the same tests which have proved successful in the *inflectional*, would be like ignoring the difference between aqueous, igneous, and metamorphic rocks. There are scholars who, as it would seem, are incapable of appreciating more than one kind of evidence.

If languages were all of one and the same texture, they might be unravelled, no doubt, with the same tools. But as they are not—and this is admitted by all—it is surely mere waste of valuable time to attempt to test the relationship of Tungusic, Mongolic, Turkic, Samoyedic, and Finnic dialects by the same criteria by which the common descent of Greek and Latin is established; or to try to discover Sanskrit in the Malay dialects, or Greek in the idioms of the Caucasian mountaineers. The whole crust of the earth

is not made of lias, swarming with Ammonites and Plesiosauri, nor is all language made of Sanskrit, teeming with Supines and Paulo-pluperfects.

Phonetic Laws.

Up to a certain point the method by which so great results have been achieved in classifying the Aryan languages may be applicable to other clusters of speech. Phonetic laws are always useful, but they are not the only tools which the student of language must learn to handle. If we compare the extreme members of the Polynesian dialects, we find but little agreement in what may be called their grammar, and many of their words seem totally distinct. But if we compare their numerals we clearly see that these are common property; we perceive similarity, though at the same time great diversity:[1]

	1	2	3	4	5
Fakaafoan	tasi	lua, ua	tolu	fa	lima
Samoan	tasi	lua	tolu	fa	lima
Tongan	taha	ua	tolu	fa	nima
New Zealand	tahi	rua	toru	wa	rima
Rarotongan	tai	rua	toru	a	rima
Mangarevan	tai	rua	toru	a	rima

	6	7	8	9	10
Fakaafoan	ono	fitu	valu	iva	fulu, ṉafulu
Samoan	ono	fitu	valu	iva	sefulu, ṉafulu
Tongan	ono	fitu	valu	hiva	hoṉofulu
New Zealand	ono	witu	waru	iwa	ṉahuru
Rarotongan	ono	itu	varu	iva	ṉauru
Mangarevan	ono	itu	varu	iva	ṉauru

[1] Hale, *United States Exploring Expedition*, vol. vii. p. 246.

	1	2	3	4	5
Paumotuan	rari	ite	ṇeti	ope	ṇeka
Tahitian	tahi	rua, piti	toru	ha, maha	rima, pae
Hawaiian	tahi	lua	tolu	ha, tauna	lima
Nukuhivan	tahi	ua	tou	ha or fa	ima

	6	7	8	9	10
Paumotuan	hene	hito	hawa	nipa	horihori
Tahitian	ono, fene	hitu	varu vau	iva	ahuru
Hawaiian	ono	hitu	valu	iwa	ʻumi
Nukuhivan	ono	hitu, fitu	vau	iva	onohuu

When we look at such lists of words, what we have to do first is to note the phonetic changes which have taken place in one and the same numeral, as pronounced by different islanders. We thus arrive at phonetic rules, and these, in their turn, serve to remove the apparent dissimilarity in other words which at first seemed totally irreconcilable. Let those who are inclined to speak disparagingly of the strict observance of phonetic rules in tracing the history of Aryan words, and who consider it mere pedantry to be restrained by Grimm's Law from identifying such words as Latin *cura* and *care*, Greek *kaleĩn* and *to call*, Latin *peto* and *to bid*, Latin *corvus* and *crow*, look at the progress that has been made by African and Polynesian philologists in checking the wild spirit of etymology even when they have to deal with dialects never reduced as yet to a fixed standard by the influence of a national literature, never written down at all, and never analysed before by grammatical science. The whole of the first volume of Dr. Bleek's 'Comparative Grammar of the South African Languages' treats of Phonology, of the vowels and consonants peculiar to each dialect, and of the changes to which

each letter is liable in its passage from one dialect into another (see page 82, seq.). And Mr. Hale, in the seventh volume of the 'United States Exploring Expedition' (p. 232), has not only given a table of the regular changes which words common to the numerous Polynesian languages undergo, but he has likewise noted those permutations which take place sporadically only. On the strength of these phonetic laws once established, words which have hardly one single letter in common have been traced back with perfect certainty to one and the same source.

Dialectic Regeneration.

At the same time, mere phonetic change or decay will not account for the differences between the Polynesian dialects. We must admit another process also, that of dialectic regeneration. It will hardly be believed, for instance, that since the time of Cook five of the ten simple numerals in the language of Tahiti have been thrown off and replaced by new ones?

Two was *rua*; it is now *piti*.
Four was *ha*; it is now *maha*.
Five was *rima*; it is now *pae*.
Six was *ono*; it is now *fene*.
Eight was *varu*; it is now *vau*.[1]

Such changes are very different from those which we observe in the Romanic dialects in their divergence from Latin, or in the ancient Aryan languages in their divergence from a common source. In the Romanic dialects, however violent the changes which made

[1] *United States Exploring Expedition under the command of Charles Wilkes.* 'Ethnography and Philology,' by H. Hale, vol. vii. p. 289.

ese words to differ from French, there always Paumotus a few fibres by which they hang together. Tahitian ght be difficult to recognise the French *plier*, to Hawaiian Nu-i, to turn, in the Portuguese *chegar*, to arrive, yet we trace *plier* back to *plicare*, and *chegar* to the Spanish *llegar*, the old Spanish *plegar*, the Latin *plicare*,[1] here used in the sense of plying or turning towards a place, arriving at a place. It is very different when we have to deal with languages which do not shrink from dropping some of their commonest words and replacing these by new words, generally taken from parallel dialects. Successive changes, taking place in the same language or in the same dialects, may be reduced to phonetic laws, but changes produced by a mixture of dialects are of a totally different character.

Thus, when we have to deal with dialects of Chinese, everything that could possibly hold them together seems hopelessly gone. The language, for instance, now spoken in Cochin-China is a dialect of Chinese, at least as much as Norman-French was a dialect of French, though spoken by Saxons at a Norman court. There was a native language of Cochin-China, the Annamitic,[2] which forms, as it were, the Saxon of that country on which the Chinese, like the Norman, was grafted. This engrafted Chinese, then, is a dialect of the Chinese, and it is most nearly related to the spoken dialect of Canton.[3] Yet few Chinese scholars would

[1] Diez, *Lexicon*, s. v. llegar; *Grammar*, i. p. 379.

[2] On the native *residuum* in Cochin-Chinese, see Léon de Rosny, *Tableau de la Cochinchine*, p. 138.

[3] In the island of Hai-nan there is a distinct approach to the form

recognise Chinese in the language of Cochin-China. It is, for instance, one of the most characteristic features of the literary Chinese, the dialect of Nankin, or the idiom of the Mandarins, that every syllable ends in a vowel, either pure or nasal.[1] In Cochin-Chinese, on the contrary, we find words ending in *k*, *t*, *p*. Thus ten is *thap*, at Canton *chap*, instead of the Chinese *chi*.[2] No wonder that the early missionaries described the Annamitic as totally distinct from Chinese. One of them says: 'When I arrived in Cochin-China, and heard the natives speak, particularly the women, I thought I heard the twittering of birds, and I gave up all hope of ever learning it. All words are monosyllabic, and people distinguish their significations only by means of different accents in pronouncing them. The same syllable, for instance, *daï*, signifies twenty-three entirely different things, according to the difference of accent, so that people never speak without sing-

that Chinese words assume in the language of Annam. Edkins, *Mandarin Grammar*, p. 87.

[1] Endlicher, *Chinesische Grammatik*, pp. 53, 78, 96.

[2] Léon de Rosny, *Tableau de la Cochinchine*, p. 295. He gives as illustrations:—

	Annamique.	Cantonnais.	Peking.
dix	thap	chap	chĭ
pouvoir	dak	tak	tĕ
sang	houet	hœĕt	hiouĕ
forêt	lam	lam	lin.

He likewise mentions double consonants in the Chinese as spoken in Cochin-China, namely, bl, dy, ml, ty, tr; also f, r, s. As final consonants he gives ch, k, m, n, ng, p, t (p. 296). The Rev. J. Edkins, in his *Mandarin Grammar*, shows that in Chinese ancient and modern sounds differ, just as the dialects in modern times of two places distant from each other: pp. 268–283.

ing.'[1] This description, though it may be somewhat exaggerated, is correct in the main, there being six or eight musical accents or modulations in this as in other monosyllabic tongues, by which the different meanings of one and the same monosyllabic root are kept distinct. These accents form an element of language which we have lost, but which was most important during the primitive stages of human speech.[2] We must remember that the Chinese language commands no more than about 450 distinct sounds, but with them it expresses between 40,000 and 50,000 words or meanings.[3] These meanings are now kept distinct by means of composition, as in other languages by derivation, but in the radical stage words with more than twenty significations would have bewildered the hearer entirely, without some hints to indicate their actual intention. Such hints were given by different intonations. We have something left of this faculty in the tone of our sentences. We distinguish an interrogative from a positive sentence by the raising of our voice. (Gone? Gone.) We pronounce *Yes* very differently when we mean *perhaps* (Yes, this may be true), or *of course* (Yes, I know it), or *really* (Yes? is it true?) or *truly* (Yes, I will). But in Chinese, in Annamitic (and likewise in Siamese and Burmese), these modulations have a much wider and more settled application. Thus in Annamitic, *ba* pronounced with the grave accent means a lady, an ancestor; pronounced with the sharp accent, it means the favourite

[1] Léon de Rosny, *l. c.* p. 301.
[2] See Beaulieu, *Mémoire sur l'Origine de la Musique*, 1863.
[3] *The Science of Language*, vol. i. p. 376.

of a prince; pronounced with the semigrave accent, it means what has been thrown away; pronounced with the grave circumflex, it means what is left of a fruit after it has been squeezed out; pronounced with no accent, it means three; pronounced with the ascending or interrogative accent, it means a box on the ear. Thus—

Ba, bà, bâ, bá,

is said to mean, if properly pronounced, 'Three ladies gave a box on the ear to the favourite of the prince.' How much these accents must be exposed to fluctuations in different dialects is easy to perceive. Though they are fixed by grammatical rules, and though their neglect causes the most absurd mistakes, they were clearly in the beginning the mere expression of individual feeling, and therefore liable to much greater dialectic variation than grammatical forms, properly so called.

But let us take what we might call grammatical forms in Chinese, in order to see how differently they too fare in dialectic dispersion, as compared with the terminations of inflectional languages. Though the grammatical organisation of Latin is well-nigh used up in French, we still see in the *s* of the plural a remnant of the Latin paradigm. We can trace the one back to the other. But in Chinese, where the plural is formed by the addition of some word meaning 'multitude, heap, flock, class,' what trace of original relationship remains when one dialect uses one, another another word? The plural in Cochin-Chinese is formed by placing *fo* before the substantive. This *fo* means many, or a certain number. It may exist in Chinese,

but it is certainly not used there to form the plural. Another word employed for forming plurals is *nung*, several, and this again is wanting in Chinese. It fortunately happens, however, that a few words expressive of plurality have been preserved both in Chinese and Cochin-Chinese; as, for instance, *choung*, clearly the Chinese *tchoung*,[1] meaning conflux, vulgus, all, and used as an exponent of the plural; and *kak*, which has been identified with the Chinese *ko*. The last identification may seem doubtful; and if we suppose that *choung*, too, had been given up in Cochin-Chinese as a term of plurality, how would the tests which we apply for discovering the original identity of the Aryan languages have helped us in determining the real and close relationship between Chinese and Cochin-Chinese?

The present indicative is formed in Cochin-Chinese by simply putting the personal pronoun before the root. Thus—

Toy men,	I love.
Mai men,	thou lovest.
No men,	he loves.

The past tense is formed by the addition of *da*, which means 'already.' Thus—

Toy da men,	I loved.
Mai da men,	thou lovedst.
No da men,	he loved.

The future is formed by the addition of *chè*. Thus—

Troy chè men,	I shall love.
Mai chè men,	thou wilt love.
No chè men,	he will love.

[1] Endlicher, *Chinesische Grammatik*, s. 152.

Now, have we any right, however convinced we may be of the close relationship between Chinese and Cochin-Chinese, to expect the same forms in the language of the Mandarins? Not at all. The pronoun of the first person in Cochin-Chinese is not what we mean by a pronoun, but means 'servant.' 'I love' is expressed in that civil language by 'servant loves.' [1] In Chinese the same polite phraseology is constantly observed, [2] but the words used are not the same, and do not include *toy*, servant. Instead of *ngò*, I, the Chinese would use *kuà ğin*, man of little virtue; *tcín*, subject; *ìu*, blockhead. [3] Nothing can be more

[1] Léon de Rosny, *l. c.* 302. [2] Endlicher, § 206.

[3] I owe the following note to the kindness of M. Stanislas Julien:—

'La manière dont le mot *ego* s'exprime dans les différentes conditions est fort curieuse.

'Un homme ordinaire dira par humilité: *yu*, le stupide; *ti*, le frère cadet; *siao-ti*, le petit; *nou-thsaï*, l'esclave.

'L'empereur dit: *siao-tseu*, parvus filius; *siao-eul*, parvus infans. Un prince dit: *koua-jin*, exiguæ virtutis homo; *kou*, l'orphelin; *pou-kou*, non bonus.

'Un magistrat supérieur (un préfet) dit: *pen-fou*, ma ville du premier ordre. Un magistrat inférieur (sous-préfet): *hia-kouan*, le magistrat infime. *Pen-hieu*, ma sous-préfecture; *pi-tchi*, la basse charge.

'Un Tartare parlant à l'empereur: *nou-thsaï*, l'esclave.

'Un religieux bouddhiste: *pin-seng*, le pauvre religieux; *siao-seng*, le petit religieux.

'Une femme parlant à son mari: *nou-nou*, esclave-esclave; *nou-kia*, esclave-maison; *tsien-tsie*, la méprisable concubine.

'Un domestique: *do*, le domestique.

'Un fils parlant à son père: *pou-siao*, pas semblable (c'est-à-dire, dégénéré).

'Un vieillard dit: *lao-fon*, le vieil homme; *lao-han*, le vieux Chinois; *lao-tchue* (vieux-stupide); *lao-hieou*, vieux-pourri.

'Un religieux: *tao-sse*; *pin-tao*, le pauvre tao; *siao-tao*, le petit tao.

'Une religieuse bouddhiste: *pin-ni*, la pauvre religieuse; *siao-ni*, la petite religieuse.

'Une vieille femme: *lao-chin*, le vieux corps; *lao-niang*, la vieille dame, etc.'

polite; but we cannot expect that different nations should hit on exactly the same polite speeches, though they may agree in the common sense of grammar.

The past tense is indicated in Chinese also by particles meaning 'already' or 'formerly,' but we do not find among them the Annamitic *da*. The same applies to the future. The system is throughout the same, but the materials are different. Shall we say, therefore, that these languages cannot be proved to be related, because they do not display the same criteria of relationship as French and English, Latin and Greek, Celtic and Sanskrit?

I tried on a former occasion[1] to explain some of the causes which in nomadic dialects produce a much more rapid shedding of words than in literary languages, and I have since received ample evidence to confirm the views which I then expressed. I was not aware at that time how clearly Schelling, in his *Einleitung in die Philosophie der Mythologie* (vol. i. p. 114), had perceived the necessity of change and dialectic variety in all nomadic languages. Speaking of the languages of Southern America, as described by Azara in his voyages (vol. ii.), he says:—

> Among that population the *Guarani* is the only language which is understood over a large area, and even this point requires more careful examination. Apart from this, as *Azara* remarks (and he has not only passed through these countries, but lived in them for years), the language changes from clan to clan, from cottage to cottage, so that often the members of one and the same family only understand each other. Nay, the very power of speech seems sometimes to become extinct.

[1] Letter to Chevalier Bunsen, on the Turanian Languages.

Their voice is never strong or sonorous; they only speak low, never loud, even when they are being killed. They hardly move their lips while speaking, and there is no expression in their face to invite attention. They evidently dislike speaking, and if they see a friend a hundred steps off, they rather run after him than call him. Language, therefore, here hovers on the very edge, and one step more would entirely put an end to it.

My excellent friend, Bishop Patteson of Melanesia, of whom it is difficult to say whether we should admire him most as a missionary, or as a scholar, or as a bold mariner,[1] met in every small island with a new language, which none but a scholar could trace back to the Melanesian type. 'What an indication,' he writes, 'of the jealousy and suspicion of their lives, the extraordinary multiplicity of these languages affords! In each generation, for aught I know, they diverge more and more; provincialisms and local words, &c., perpetually introduce new causes for perplexity.'

The northern peninsula of Celebes, of which the chief town is Menado, is inhabited by a race quite distinct from the other people of the island. They are Malays, but have something of the Tatar and something of the European in their physiognomy. They agree best with some of the inhabitants of the Philippines; and Mr. Wallace, a most accurate observer, supposes that they have come from those islands originally by way of the Siaou and Sanguir islands, which are inhabited by an allied race. Their languages show this affinity, differing very much from all those of the rest of Celebes. A proof, how-

[1] He was murdered in 1871, a true hero and martyr.

ever, of the antiquity of this immigration, and of the low state of civilisation in which they must have existed for long periods, is to be seen in the variety of their languages. In a district about one hundred miles long by thirty miles wide, not less than ten distinct languages are spoken. Some of them are confined to single villages, others to groups of three or four; and though of course they have a certain family resemblance, they are yet so distinct as to be mutually unintelligible.[1]

Te pi.

There are many causes at work to produce dialectic change. In addition to those which I have explained already, I shall mention but one more which has acted very powerfully on the Polynesian languages. It may seem at first sight very insignificant, but as one of the multifarious influences which are at work in nomadic dialects, constantly changing their aspect and multiplying their number, it ought not to be overlooked. It will serve at all events to convince even the most incredulous, how little we know of all the secret springs of language if we confine our researches to a comparison of the classical tongues of India, Greece, Italy, and Germany.

The Tahitians,[2] besides their metaphorical expressions, have another and a more singular mode of displaying their reverence towards their king, by a custom which they term *Te pi*. They cease to em-

[1] A. R. Wallace, 'Man in the Malay Archipelago,' *Transactions of the Ethnological Society*, iii. p. 206.

[2] Hale, *l. c.* p. 288.

ploy, in the common language, those words which form a part or the whole of the sovereign's name, or that of one of his near relatives, and invent new terms to supply their place. As all names in Polynesian are significant, and as a chief usually has several, it will be seen that this custom must produce a very considerable change in the language. It is true that this change is only temporary, as at the death of the king or chief the new word is dropt, and the original term resumed. But it is hardly to be supposed that after one or two generations the old words should still be remembered and be reinstated. The literary activity of the missionaries also will in future serve to check the influence of this ancient national custom, because words, if once incorporated in the translation of the Bible, in grammars and dictionaries, will acquire a strong persistence and defy the ceremonial loyalty of the natives. Vancouver observes (*Voyage*, vol. i. p. 135) that at the accession of Otu, which took place between the visit of Cook and his own, no less than forty or fifty of the most common words, which occur in conversation, had been entirely changed. It is not necessary that all the simple words which go to make up a compound name should be changed. The alteration of one is esteemed sufficient. Thus in *Po-mare*, signifying 'the night (*po*) of coughing (*mare*),' only the first word, *po*, has been dropped, *mi* being used in its place. So in *Ai-mata* (eye-eater), the name of another queen, the *ai* (eat) has been altered to *amu*, and the *mata* (eye) retained. In *Te-arii-na-vaha-roa* (the chief with the large mouth), *roa* alone has been

changed to *maoro*. It is the same as if, with the accession of Queen Victoria, either the word *victory* had been tabooed altogether, or only part of it, for instance *tori*, so as to make it high treason to speak during her reign of *Tories*, this word being always supplied by another; such, for instance, as Liberal-Conservative. The object was clearly to guard against the name of the sovereign being ever used, even by accident, in ordinary conversation, and this object was equally well attained by tabooing even one portion of his name only.

But this alteration (as Mr. Hale continues) affects not only the words themselves, but syllables of similar sound in other words. Thus the name of one of the kings being *Tu*, not only was this word, which means 'to stand,' changed to *tia*, but in the word *fetu*, star, the last syllable, though having no connection except in sound, with the word *tu*, underwent the same alteration—star being now *fetia; tui*, to strike, became *tiai;* and *tu pa pau*, a corpse, *tia pa pau*. So *ha*, four, having been changed to *maha*, the word *aha*, split, has been altered to *amaha*, and *murihá*, the name of a month, to *murimaha*. When the word *ai* was changed to *amu*, *maraai*, the name of a certain wind (in Rarotongan, *maranai*), became *maraamu*.

The mode of alteration, or the manner of forming new terms, seems to be arbitrary. In many cases, the substitutes are made by changing or dropping some letter or letters of the original word, as *hopoi* for *hapai*, to carry in the arms; *ene* for *hono*, to mend; *au* for *tau*, fit; *hio* for *tio*, to look; *ea* for *ara*, path; *vau* for *varu*, eight; *vea* for *vera*, not, &c. In other cases, the word substituted is one which had before a meaning nearly related to that of the term disused—as *tia*, straight, upright, is used instead of *tu*, to stand; *pae*, part, division, instead of *rima*, five; *piti*, together, has replaced *rua*, two, &c. In some cases, the meaning or origin of the new word is unknown, and it may be a mere invention—as *ofai* for *ohatu*, stone; *pape*, for *vai*, water; *pohe* for *mate*, dead,

&c. Some have been adopted from the neighbouring Paumotuan, as *rui*, night, from *ruki*, dark; *fene*, six, from *hene*; *avae*, moon, from *kawake*.

It is evident that but for the rule by which the old terms are revived on the death of the person in whose name they entered, the language might, in a few centuries, have been completely changed, not, indeed, in its grammar, but in its vocabulary.

When such liberties could be taken with language, we need not be surprised that one of the kings of the Sandwich Islands conceived the idea of inventing an entirely new language. About the year 1800, as Chamisso tells us in his Travels,[1] King Tameiameia (only another rendering of Kamehameha) invented a new language in honour of the birth of a son. The new words were not related to any roots of the current language, nor derived from them. Even the particles which take the place of grammatical forms and bind a sentence together, were similarly changed. The story goes that some of the influential chiefs who disapproved of this innovation, poisoned the child that had been the innocent cause of it, and that at his death the changes were suppressed which had been introduced at his birth. The old language returned, the new one was forgotten, not so much however that Marini, Chamisso's authority in this matter, could not mention a few instances of novel words which survived, such as *anna*, man, for the old *kanaka*; *karavu*, woman, for the old *waheini*; *amio*, to go, for the old *kokine*; *ja papa*, dog, for the old *irio* or *lio*.[2]

[1] Chamisso, *Werke*, ii. 77.

[2] Something of the same kind is mentioned by Dobrizhoffer with regard to the language of the Abipones; *History of the Abipones*, part ii. chap. 17.

Nor is this custom of *Te pi*, a kind of linguistic *Tabu*, confined to the Malayo-Polynesian dialects. A similar tendency exists in Chinese. Schlegel, in his *Sinico-Aryaca*,[1] p. 4, makes the following statement:

En Chinois nous retrouvons le même usage pour la langue écrite. Le caractère 紵 *tchou*, p. e. désignant une espèce de toile grossière, est en même temps le nom particulier de l'Empereur Hien-fung. Depuis, on ne peut plus se servir de ce caractère pour désigner cette espèce d'étoffe, mais on doit la désigner par le caractère tronqué 紵 par respect pour le nom sacré du Souverain.

Le caractère 邦 *pang*, un état, fut éliminé de la littérature chinoise pendant tout le temps que regnait la maison du fondateur de la dynastie de Han, puisque le nom de ce fondateur était 劉邦 *Liu-pang*. Il fut remplacé par le caractère 國 *kwoh*, qui signifiait primitivement, une principauté; mais, qui, par l'élimination temporaire du mot *pang*, a reçu une signification plus large, tandis que le mot *pang* est descendu de son rang supérieur et a pris l'acceptation qu'avait primitivement le caractère *kwoh*. (*Notes and Queries on China and Japan*, vol. iii. pp. 179–181.)

A similar custom, according to Aymonier, prevails in Cambodja. 'Si le nom du roi,' he writes in his *Dictionnaire Français-Cambodgien* (1874), p. 4, 'est emprunté à un mot du langage usuel, chose très-commune au Cambodge, ce mot est souvent chargé. Ainsi depuis Ang Duong, le mot *duong*, qui désignait une petite pièce de monnaie, est remplacé par le mot *dŏm*.'

[1] Verhandlingen van het Bataviaasch Genootschap, Deel. xxxvi, Batavia, 1872. This subject has been very fully treated by the Rev. Hilderic Friend, 'Euphemism and Tabu in China,' *Folk-lore Record*, vol. iv.

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Ukuhlonipa.

It might, no doubt, be said that a custom such as *Te pi* is a mere accident, a fancy peculiar to a fanciful race, but far too unimportant to claim any consideration from the philosophical student of language. I confess that at first it appeared to myself in the same light, but my attention was lately drawn to the fact, that the same peculiarity, or at least something very like it, exists in the Kafir languages. 'The Kafir women,' as we are told by the Rev. J. W. Appleyard, in his excellent work on the Kafir language,[1] 'have many words peculiar to themselves. This arises from a national custom, called *Ukuhlonipa*, which forbids their pronouncing any word which may happen to contain a sound similar to one in the names of their nearest male relations.' It is perfectly true that the words substituted are at first no more than family idioms, that they would be confined to the gossip of women, and not enter into the conversation of men. But the influence of women on the language of each

[1] *The Kafir Language*, comprising a sketch of its history; which includes a general classification of South African dialects, ethnographical and geographical; remarks upon its nature; and a grammar. By the Rev. J. W. Appleyard, Wesleyan missionary in British Kaffraria, King William's Town: printed for the Wesleyan Missionary Society; sold by Godlonton and White, Graham's Town, Cape of Good Hope, and by John Mason, 66 Paternoster Row, London. 1850. Appleyard's remarks on Ukuhlonipa were pointed out to me by the Rev. F. W. Farrar, the author of an excellent work on the *Origin of Language*.

See also Tylor, *Early History of Mankind*, p. 147, and the Rev. J. L. Döhne, *Zulu-Kafir Dictionary*, Cape Town, 1857, s.v. *hlonipa*, to be bashful, to keep at a distance through timidity, to shun approach, to avoid mentioning one's name, to be respectful. On Ukuhlonipa in Tasmania, see Bonwick, *Daily Life in Tasmania*, p. 146.

generation is much greater than that of men. We very properly call our language in Germany our mother-tongue, *Unsere Muttersprache*, for it is from our mothers that we learn it, with all its peculiarities, faults, idioms, accents. Cicero, in his 'Brutus' (c. 58), said:—'It makes a great difference whom we hear at home every day, and with whom we speak as boys, and how our fathers, our tutors, and our mothers speak. We read the letters of Cornelia, the mother of the Gracchi, and it is clear from them that her sons were brought up not in the lap, but, so to say, in the very breath and speech of their mother.' And again (Rhet. iii. 12), when speaking of his mother-in-law, Crassus said, 'When I hear Lælia (for women keep old fashions more readily, because, as they do not hear the conversation of many people, they will always retain what they learned at first); but when I hear her, it is as if I were listening to Plautus and Nævius.'

But this is not all. Dante ascribed the first attempts at using the vulgar tongue in Italy for literary compositions to the silent influence of ladies who did not understand the Latin language. Now this vulgar Italian, before it became the literary language of Italy, held very much the same position there as the so-called Prâkrit dialects in India; and these Prâkrit dialects first assumed a literary position in the Sanskrit plays where female characters, both high and low, are introduced as speaking Prâkrit, instead of the Sanskrit employed by kings, noblemen, and priests. Here, then, we see the language of women, or, if not of women exclusively, at all events of women

and domestic servants, gradually entering into the literary idiom, and in later times even supplanting it altogether; for it is from the Prâkrit, and not from the literary Sanskrit, that the modern vernaculars of India branched off in course of time. Nor is the simultaneous existence of two such representatives of one and the same language as Sanskrit and Prâkrit confined to India. On the contrary, it has been remarked that several languages divide themselves from the first into two great branches; one showing a more manly, the other a more feminine character; one richer in consonants, the other richer in vowels; one more tenacious of the original grammatical terminations, the other more inclined to slur over these terminations, and to simplify grammar by the use of circumlocutions. Thus we have Greek in its two dialects, the Æolic and the Ionic, with their subdivisions, the Doric and Attic. In German we find the High and the Low German; in Celtic, the Goidhelic and Cymric, as in India the Sanskrit and Prâkrit; and it is by no means an unlikely or merely fanciful explanation, that, as Grimm suggested in the case of High and Low German, so likewise in the other Aryan languages, the stern and strict dialects, the Sanskrit, the Æolic, the Goidhelic, represent the idiom of the fathers and brothers, used at public assemblies; while the soft and simpler dialects, the Prâkrit, the Ionic, and the Cymric, sprang originally from the domestic idiom of mothers, sisters, and servants at home.

But whether the influence of the language of women be admitted on this large scale or not, certain it is, that through a thousand smaller channels their idioms

everywhere find admission into the domestic conversation of the whole family, and into the public speeches of their assemblies. The greater the ascendancy of the female element in society, the greater the influence of their language on the language of a family or a clan, a village, or a town. The cases, however, that are mentioned of women speaking a totally different language from the men, cannot be used in confirmation of this view. The Caribe women, for instance, in the Antille Islands,[1] spoke a language different from that of their husbands, because the Caribes had killed the whole male population of the Arawakes and married their women; and something similar seems to have taken place among some of the tribes of Greenland.[2] Yet even these isolated cases show how, among savage races, in a primitive state of society, language may be influenced by what we should call purely accidental causes, and more particularly wherever the system of exogamous marriage is prevalent.

But to return to the Kafir language, we find in it clear traces that what may have been originally a mere feminine peculiarity—the result, if you like, of the bashfulness of the Kafir ladies—extended its influence. For, in the same way as the women eschew words which contain a sound similar to the names of their nearest male relatives, the men also of certain Kafir tribes feel a prejudice against employing a word that is similar in sound to the name of one of their former chiefs. Thus, the Amambalu do not use *ilanga*, the general word for *sun*, because their first chief's name was *Ulanga*, but employ *isota* instead. For a similar

[1] Hervas, *Catalogo*, i. p. 212. [2] *Ibid.* i. p. 369.

reason, the Amagqunukwebi substitute *immela* for *isitshetshe*, the general term for knife.[1]

Here, then, we may perceive two things: first, the influence which a mere whim, if it once becomes stereotyped, may exercise on the whole character of a language, for we must remember that as every woman had her own male relations, and every tribe its own ancestors, a large number of words must constantly have been *tabooed* and supplanted in these African and Polynesian dialects; secondly, the curious coincidence that two great branches of speech, the Kafir and the Polynesian, should share in common what at first sight would seem a merely accidental idiosyncrasy, a thing that might have been thought of once, but never again. It is perfectly true that such principles as the *Te pi* and the *Ukuhlonipa* could never become powerful agents in the literary languages of civilised nations, and that we must not look for traces of their influence either in Sanskrit, Greek, or Latin, as known to us.[2] But it is for that very reason that the study of what I call *Nomad* languages, as distinguished from *State* languages, becomes so instructive. We see in them what we can no longer expect to see even in the most ancient Sanskrit or Hebrew. We watch the childhood of language with all its childish freaks, and we learn at least this one lesson, that there often is more in real language than is dreamt of in our philosophy.

One more testimony in support of these views.

[1] Appleyard, *l. c.* p. 70.

[2] See Lorédan Larchey, *Les Excentricités du Langage*: Paris, 1865.

Mr. H. W. Bates, in his interesting work, *The Naturalist on the Amazons*, writes :—

> But language is not a sure guide in the filiation of Brazilian tribes, seven or eight languages being sometimes spoken on the same river within a distance of 200 or 300 miles. There are certain peculiarities in Indian habits which lead to a quick corruption of language and segregation of dialects. When Indians, men or women, are conversing amongst themselves, they seem to take pleasure in inventing new modes of pronunciation, or in distorting words. It is amusing to notice how the whole party will laugh when the wit of the circle perpetrates a new slang term, and these new words are very often retained. I have noticed this during long voyages made with Indian crews. When such alterations occur amongst a family or horde, which often live many years without communication with the rest of their tribe, the local corruption of language becomes perpetuated. Single hordes belonging to the same tribe, and inhabiting the banks of the same river, thus become, in the course of many years' isolation, unintelligible to other hordes, as happens with the Collínas on the Juruá. I think it, therefore, very probable that the disposition to invent new words and new modes of pronunciation, added to the small population and habits of isolation of hordes and tribes, are the causes of the wonderful diversity of languages in South America.—(Vol. i. pp. 329–30.)

As I mostly borrow my materials for the illustration of the general principles of the Science of Language from Greek and Latin, with its Romance offshoots; from English, with its Continental kith and kin, and from the much-abused, though indispensable, Sanskrit, I thought it all the more necessary to guard against the misapprehension that the study of Sanskrit and its cognate dialects could supply us with all that is necessary for our purpose. It can do so as little as an exploration of the tertiary epoch could tell

us all about the stratification of the earth. But, nevertheless, it can tell us a great deal. By displaying the minute laws that regulate the changes of each consonant, each vowel, each accent, it disciplines the student, and teaches him respect for every jot and tittle in any, even the most barbarous, dialect he may hereafter have to analyse. By helping us to an understanding of that language in which we think, and of others most near and dear to us, it makes us perceive the great importance which the Science of Language has for the Science of Thought. Nay, it shows that the two are inseparable, and that without a proper analysis of human language we shall never arrive at a true knowledge of the human mind. I quote from Leibniz: 'I believe truly,' he says, 'that languages are the best mirror of the human mind, and that an exact analysis of the signification of words would make us better acquainted than anything else with the operations of the understanding.'

CHAPTER II.

LANGUAGE AND REASON.

LANGUAGE has two aspects under which it presents itself to the eye of the student. It has a body and a soul which, though they cannot be separated, can be distinguished and be subjected separately to scientific treatment.

I shall treat therefore first, of the body or the outside of language, its letters, syllables, and words, describing their origin, their formation, and the laws which determine their growth and decay. Here we shall have to deal with some of the most important principles of etymology.

After that, I shall try to investigate what may be called the soul or the inside of language, examining the first concepts that claimed utterance, their combinations, their ramifications, their growth, their decay, and often their resuscitation. We shall have to deal then with some of the fundamental principles of mythology, both ancient and modern, and try to determine the sway, if any, which the old language exercises on the ever new language, or, as it is generally expressed, which language, as such, exercises over thought.

I am fully aware that this division is liable to some grave objections. To treat of sound as independent of meaning, of thought as independent of words, seem to defy one of the best established principles of the science of language. Where do we ever meet in reality, I mean in the world such as it is, with articulate sounds—sounds like those that form the body of language, existing by themselves, and independent of language? No human being utters articulate sounds without an object, a purpose, a meaning.[1] The endless configurations of sound which are collected in our dictionaries would have no existence at all, they would be the mere ghost of a language, unless they stood there as the embodiment of thought, as the realisation of ideas. Even the interjections which we use, the cries and screams which are the precursors, or, according to others, the elements, of articulate speech, never exist without meaning. Articulate sound is always an utterance, a bringing out of something that is within, a manifestation or revelation of something that wants to manifest and to reveal itself. It would be different if language had been invented by agreement; if certain wise kings, priests, and philosophers had put their heads together and decreed that certain conceptions should be labelled and ticketed with certain sounds. In that case we might speak of the sound as the outside, of the ideas as the inside of language.

[1] Ait. Br. II.: 'Manasâ vâ ishitâ vâg vadati, yâm hy anyamanâ vâkam vadaty asuryâ vâi sâ vâg adevagushtâ.' 'The voice speaks as impelled by the mind; if one utters speech with a different mind or meaning, that is demoniacal speech, not loved by the gods.'

Artificial Language.

Why it is impossible to conceive of living human language as having originated in a conventional agreement, I have endeavoured to explain before. We should want language in order to arrive at a conventional agreement on language. But I should by no means wish to be understood as denying the possibility of framing some language in this artificial manner, after men have once learnt to speak and to reason. It is the fashion to laugh at the idea of an artificial, still more of a universal language. But if this problem were really so absurd, a man like Leibniz would hardly have taken so deep an interest in its solution. That such a language should ever come into practical use, or that the whole earth should in that manner ever be of one language and one speech again, is hard to conceive. But that the problem itself admits of a solution, and of a very perfect solution, cannot be doubted.

The Universal Language of Leibniz.

As there prevails much misconception on this subject, I shall give a short account of what has been achieved in framing a truly philosophical and therefore universal language.

Leibniz, in a letter to *Remond de Montmort*, written two years before his death, expressed himself with the greatest confidence on the value of what he calls his *Spécieuse générale*, and we can hardly doubt that he had then acquired a perfectly clear insight into his ideal of a universal language.[1] 'If he succeeded,'

[1] *Guhrauer*, G. W. Freiherr von Leibnitz, 1846, vol. i. p. 328.

he writes, 'in stirring up distinguished men to cultivate the calculus with infinitesimals, it was because he could give palpable proofs of its use; but he had spoken to the Marquis de L'Hôpital and others, of his *Spécieuse générale*, without gaining from them more attention than if he had been telling them of a dream. He ought to be able, he adds, to support his theory by some palpable use; but for that purpose he would have to carry out a part of his *Characteristics*—no easy matter, particularly circumstanced as he then was, deprived of the conversation of men who would encourage and help him in this work.'

A few months before this letter, Leibniz spoke with perfect assurance of his favourite theory. He admitted the difficulty of inventing and arranging this philosophical language; but he maintained that, if once carried out, it could be acquired by others without a dictionary, and with comparative ease. He should be able to carry it out, he said, if he were younger and less occupied, or if young men of talent were by his side. A few eminent men might complete the work in five years, and within two years they might bring out the systems of ethics and metaphysics in the form of an incontrovertible calculus.

The Philosophical Language of Bishop Wilkins.

Leibniz died before he could lay before the world the outlines of his philosophical language, and many even among his admirers have expressed their doubts whether he ever had a clear conception of the nature of such a language. It seems hardly compatible, however, with the character of Leibniz to suppose

that he should have spoken so confidently, that he should actually have placed this *Spécieuse générale* on a level with his differential calculus, if it had been a mere dream. It seems more likely that Leibniz was acquainted with a work which, in the second half of the seventeenth century, attracted much attention in England, 'The Essay towards a Real Character and a Philosophical Language,'[1] by Bishop Wilkins (London, 1668), and that he perceived at once that the scheme there traced out was capable of much greater perfection. This work had been published by the Royal Society, and the author's name was so well known as one of its founders, that it could hardly have escaped the notice of the Hanoverian philosopher, who was in such frequent correspondence with members of that society.[2]

Now, though it has been the fashion to sneer at Bishop Wilkins and his Universal Language, his work seems to me, as far as I can judge, to offer the best solution that has yet been offered of a problem which, if of no practical importance, is of great interest from a purely scientific point of view; and though it is impossible to give an intelligible account of the Bishop's scheme without entering into particulars which cannot be but tedious, it will help us, I believe,

[1] The work of Bishop Wilkins is analysed and criticised by Lord Monboddo, in the second volume of his *Origin and Progress of Language*, Edinburgh, 1774.

[2] This supposition has been confirmed by a passage in which Leibniz actually quotes Bishop Wilkins. See Benfey, *Geschichte der Sprachwissenschaft*, p. 249; Trendelenburg, Über Leibnizens Entwurf einer allgemeinen Characteristik, Berlin, 1856; *Monatsberichte der Berliner Akademie*, 1860, p. 375; and a note in the French translation of my Lectures by Harris and Perrot, p. 57.

towards a better understanding of real language, if we can acquire a clear idea of what an artificial language would be, and how it would differ from living speech.

The primary object of the Bishop was not to invent a new spoken language, though he arrives at that in the end, but to contrive a system of writing or representing our thoughts that should be universally intelligible. We have, for instance, our numerical figures, which are understood by people speaking different languages, and which, though differently pronounced in different parts of the world, convey everywhere the same idea. We have besides such signs as + plus, − minus, × to be multiplied, ÷ to be divided, = equal, < greater, > smaller, ☉ sun, ☽ moon, ⊕ earth, ♃ Jupiter, ♄ Saturn, ♂ Mars, ♀ Venus, &c., which are intelligible to mathematicians and astronomers all over the world.

Now if to every thing and notion,—I quote from Bishop Wilkins (p. 21)—there were assigned a distinct mark, together with some provision to express grammatical derivations and inflexions, this might suffice as to one great end of a real character, namely, the expression of our conceptions by marks, which shall signify things, and not words. And so, likewise, if several distinct words (sounds) were assigned to the names of such things, with certain invariable rules for all such grammatical derivations and inflexions, and such only as are natural and necessary, this would make a much more easy and convenient language than is yet in being.

This suggestion, which, as we shall see, is not the one which *Bishop Wilkins* carried out, has lately been taken up by *Don Sinibaldo de Mas*, in his *Idéographie*.[1]

[1] *Idéographie.* Mémoire sur la possibilité et la facilité de former une écriture générale au moyen de laquelle tous les peuples puissent s'entendre mutuellement sans que les uns connaissent la langue des

He gives a list of 2,600 figures, all formed after the pattern of musical notes, and he assigns to each a certain meaning. According to the interval in which the head of such a note is placed, the same sign is to be taken as a noun, an adjective, a verb, or an adverb. Thus the same sign might be used to express love, to love, loving, and lovingly, by simply moving its head on the lines and spaces from f to e, d, and c. Another system of signs is then added to express gender, number, case, person, tense, mood, and other grammatical categories, and a system of hieroglyphics is thus formed, by which the author succeeds in rendering the first 150 verses of the Æneid. It is perfectly true, as the author remarks, that the difficulty of learning his 2,000 signs is nothing in comparison with learning several languages; it is perfectly true, also, that nothing can exceed the simplicity of his grammatical notation, which excludes by its very nature everything that is anomalous. The whole grammatical framework consists of thirty-nine signs, whereas, as Don Sinibaldo remarks, we have in French 310 different terminations for the simple tenses of the ten regular conjugations, 1,755 for the thirty-nine irregular conjugations, and 200 for the auxiliary verbs, a sum total of 2,265 terminations, which must be learnt by heart.[1] It is perfectly true, again, that few persons would ever use more than 4,000 words, and that by having the same sign used throughout as noun, verb, adjective, and adverb, this

autres; écrit par Don Sinibaldo de Mas, Envoyé extraordinaire et Ministre plénipotentiaire de S. M. C. en Chine. Paris: B. Duprat, 1863.

[1] Page 99.

number might still be considerably reduced. There is, however, this fundamental difficulty, that the assignment of a certain sign to a certain idea is purely arbitrary in this system, a difficulty which, as we shall now proceed to show, Bishop Wilkins endeavoured to overcome in a very ingenious and truly philosophical way.

If these marks or notes (he writes) could be so contrived as to have such a dependence upon, and relation to, one another, as might be suitable to the nature of the things and notions which they represented; and so, likewise, if the names of things could be so ordered as to contain such a kind of *affinity* or *opposition* in their letters and sounds, as might be some way answerable to the nature of the things which they signified; this would yet be a farther advantage superadded, by which, besides the best way of helping the memory by natural method, the understanding likewise would be highly improved; and we should, by learning the character and the names of things, be instructed likewise in their natures, the knowledge of both of which ought to be conjoined.[1]

The Bishop, then, undertakes neither more nor less than a classification of all that is or can be known, and he makes this dictionary of notions the basis of a corresponding dictionary of signs, both written and spoken. All this is done with great circumspection, and if we consider that it was undertaken nearly two hundred years ago, and carried out by one man single-handed, we shall be inclined to judge leniently of what may now seem to us antiquated and imperfect in his *catalogue raisonné* of human knowledge. A careful consideration of his work will show us why this language, which was meant to be permanent,

[1] Page 21.

unchangeable, and universal, would, on the contrary, by its very nature, be constantly shifting. As our knowledge advances, the classification of our notions is constantly remodelled; nay, in a certain sense, all advancement of learning may be called a corrected classification of our notions. If a plant, classified according to the system of Linnæus, or according to that of Bishop Wilkins, has its own peculiar place in their synopsis of knowledge, and its own peculiar sign in their summary of philosophical language, every change in the classification of plants would necessitate a change in the philosophical nomenclature. The whale, for instance, is classified by Bishop Wilkins as a *fish*, falling under the division of *viviparous* and *oblong*. Fishes, in general, are classed first as *substances*, then as *animate*, as *sensitive*, and lastly as *sanguineous*, and the sign attached to the whale, by Bishop Wilkins, expresses every one of those differences which mark its place in his system of knowledge. As soon, therefore, as we treat the whale no longer as a fish, but as a mammal, its place is completely shifted, and its sign or name, if retained, would mislead us quite as much as the names of rainbow, thunderbolt, sunset, and others, expressive of ancient ideas which we know to be erroneous. This would happen even in strictly scientific subjects.

Chemistry, for instance, adopted *acid* as the technical name of a class of bodies of which those first recognised in science were distinguished by sourness of taste. But as chemical knowledge advanced, it was discovered that there were compounds precisely analogous in essential character, which were not sour,

and consequently *acidity* was but an accidental quality of some of these bodies, not a necessary or universal character of all. It was thought too late to change the name, and accordingly in all European languages the term *acid*, or its etymological equivalent, is now applied to rock-crystal, quartz, and flint.

In like manner, from a similar misapplication of *salt*, in scientific use, chemists class the substance of which junk-bottles, French mirrors, windows, and opera glasses are made, among the *salts*, while analysts have declared that the essential character, not only of other so-called salts, but of common kitchen salt, the salt of salts, has been mistaken; that *salt is not salt*, and, accordingly, have excluded that substance from the class of bodies upon which, as their truest representative, it had bestowed its name.[1]

The Bishop begins by dividing all things which may be the subjects of language into six classes or genera, which he again subdivides by their several differences. These six classes comprise:—

A. TRANSCENDENTAL NOTIONS.
B. SUBSTANCES.
C. QUANTITIES.
D. QUALITIES.
E. ACTIONS.
F. RELATIONS.

In B to F we easily recognise the principal predicaments or categories of logic, the pigeon-holes in which the ancient philosophers thought they could stow away all the ideas that ever entered the human

[1] Marsh, *History of the English Language*, p. 211; Liebig, *Chemische Briefe*, 4th edit. i. p. 96.

mind. Under A we meet with a number of more abstract conceptions, such as *kind*, *cause*, *condition*, &c.

By subdividing these six classes, the Bishop arrives in the end at forty classes, which, according to him, comprehend everything that can be known or imagined, and therefore everything that can possibly claim expression in a language, whether natural or artificial. To begin with the beginning, we find that his transcendental notions refer either to things or to words. Referring to things, we have

I. Transcendentals General, such as the notions of *kind*, *cause*, *differences*, *end*, *means*, *mode*. Here, under *kind*, we should find such notions as being, thing, notion, name, substance, accident, &c. Under notions of *cause* we meet with author, tool, aim, stuff, &c.

II. Transcendental of Mixed Relation, such as the notions of *general quantity*, *continued quantity*, *discontinued quantity*, *quality*, *whole and part*. Under *general quantity* the notions of greatness and littleness, excess and defect; under *continued quantity* those of length, breadth, depth, &c., would find their places.

III. Transcendental Relations of Actions, such as the notions of *simple actions* (putting, taking), *comparate action* (joining, repeating, &c.), *business* (preparing, designing, beginning), *commerce* (delivering, paying, reckoning), *event* (gaining, keeping, refreshing), *motion* (going, leading, meeting).

IV. The Transcendental Notions of Discourse, comprehending all that is commonly comprehended under grammar and logic: ideas such as noun, verb, particle, prose, verse, letter, syllogism, question, affirmative, negative, and many more.

After these general notions, which constitute the first four classes, but before what we should call the categories, the Bishop admits two independent classes of transcendental notions, one for *God*, the other for the *World*, neither of which, as he says, can be treated as predicaments, because they are not capable of any subordinate species.

V. The fifth class, therefore, consists entirely of the idea of GOD.

VI. The sixth class comprehends the WORLD or universe, divided into *spiritual* and *corporeal*, and embracing such notions as spirit, angel, soul, heaven, planet, earth, land, &c.

After this we arrive at the five categories, subdivided into thirty-four subaltern genera, which, together with the six classes of transcendental notions, complete, in the end, his forty genera.

The Bishop begins with *substance*, the first difference of which he makes to be *inanimate*, and distinguishes by the name of

VII. ELEMENT, as his seventh genus. Of this there are several differences, *fire*, *air*, *water*, *earth*, each comprehending a number of minor species.

Next comes SUBSTANCE ANIMATE, divided into *vegetative* and *sensitive*. The *vegetative* again he subdivides into *imperfect*, such as *minerals*, and *perfect*, such as *plants*.

The imperfect vegetative he subdivides into

VIII. STONE, and

IX. METAL.

STONE he subdivides by six differences, which, as he tells us, is the usual number of differences that he finds under every genus; and under each of these differences he enumerates several species, which seldom exceed the number of nine under any one.

Having thus gone through the *imperfect vegetative*, he comes to the *perfect*, or *plant*, which he says is a tribe so numerous and various, that he confesses he found a great deal of trouble in dividing and arranging it. It is in fact a botanical classification, not based on scientific distinctions like that adopted by Linnæus, but on the more tangible differences in the outward form of plants. It is interesting, if for nothing else, at least for the rich native nomenclature of all kinds of herbs, shrubs, and trees, which it contains.

The *herb* he defines to be a minute and tender plant, and he has arranged it according to its leaves, in which way considered, it makes his

X. Class, LEAF-HERBS.

Considered according to its flowers, it makes his

XI. Class, or FLOWER-HERBS.

Considered according to its seed-vessels, it makes his

XII. Class, or SEED-HERBS.

Each of these classes is divided by a certain number of differences, and under each difference numerous species are enumerated and arranged.

All other plants being woody, and being larger and firmer than the herb, are divided into

XIII. SHRUBS, and

XIV. TREES.

Having thus exhausted the vegetable kingdom, the Bishop proceeds to the animal or *sensitive*, as he calls it, this being the second member of his division of animate substance. This kingdom he divides into

XV. EXSANGUINEOUS.

XVI., XVII., XVIII. SANGUINEOUS, namely FISH, BIRD, and BEAST.

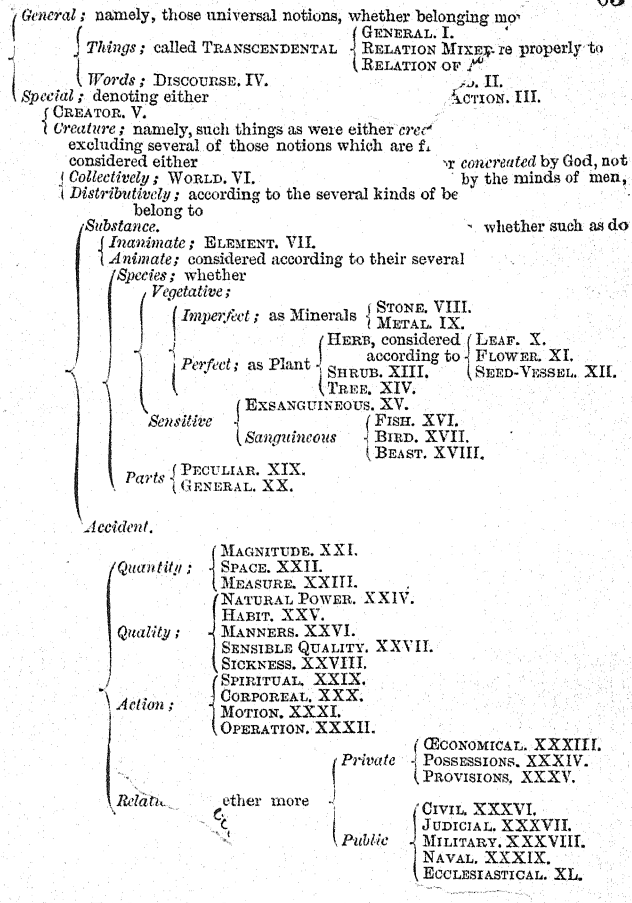
Having thus considered the general nature of vegetables and animals, he proceeds to consider the parts of both, some of which are *peculiar* to particular plants and animals, and constitute his

XIX. Genus, PECULIAR PARTS;

while others are *general*, and constitute his

XX. Genus, GENERAL PARTS.

Having thus exhausted the category of *substances*, he goes through the remaining categories of *quantity*, *quality*, *action*, and *relation*, which, together with the preceding classes, are represented in the following table, the skeleton, in fact, of the whole body of human knowledge.



The Bishop is far from claiming any great merit for his survey of human knowledge, and he admits most fully its many defects. No single individual could have mastered such a subject, which would baffle even the united efforts of learned societies. Yet

such as it is, and with all its imperfections, increased by the destruction of great part of his manuscript in the fire of London, it may give us some idea of what the genius of a Leibniz would have put in its place, if he had ever matured the idea which was from his earliest youth stirring in his brain.

Having completed, in forty chapters, his philosophical dictionary of knowledge, Bishop Wilkins proceeds to compose a philosophical grammar, according to which these ideas are to be formed into complex propositions and discourses. He then proceeds, in the fourth part of his work, to the framing of the language, which is to represent all possible notions, according as they have been previously arranged. He begins with the written language or *Real Character*, as he calls it, because it expresses things, and not sounds, as the common characters do. It is, therefore, to be intelligible to people who speak different languages, and to be read without, as yet, being pronounced at all. It were to be wished, he says, that characters could be found bearing some resemblance to the things expressed by them; also, that the sounds of a language should have some resemblance to their objects. This, however, being impossible, he begins by contriving arbitrary marks for his forty genera. The next thing to be done is to mark the differences under each genus. This is done by affixing little lines at the left end of the character, forming with the character angles of different kinds, that is, right, obtuse, or acute, above or below; each of these affixes, according to its position, denoting the first, second, third, and following difference under the

genus, these differences being, as we saw, regularly numbered in his philosophical dictionary.

The third and last thing to be done is to express the species under each difference. This is done by affixing the like marks to the other end of the character, denoting the species under each difference, as they are numbered in the dictionary.

In this manner all the several notions of things which are the subject of language, can be represented by real characters. But besides a complete dictionary, a grammatical framework, too, is wanted before the problem of an artificial language can be considered as solved. In natural languages the grammatical articulation consists either in separate particles or in modifications in the body of a word, to whatever cause such modifications may be ascribed. Bishop Wilkins supplies the former by marks denoting particles, these marks being circular figures, dots, and little crooked lines, or virgulæ, disposed in a certain manner. The latter, the grammatical terminations, are expressed by hooks or loops, affixed to either end of the character above or below, from which we learn whether the thing intended is to be considered as a noun, or an adjective, or an adverb; whether it be taken in an active or passive sense, in the plural or singular number. In this manner, everything that can be expressed in ordinary grammars, the gender, number, and cases of nouns, the tenses and moods of verbs, pronouns, articles, prepositions, conjunctions, and interjections, are all rendered with a precision unsurpassed, nay unequalled, by ar[illegible]ng language.

Having thus shaped all his materials, the Bishop proceeds to give the Lord's Prayer and the Creed, written in what he calls his *Real Character*; and it must be confessed by every unprejudiced person that with some attention and practice these specimens are perfectly intelligible.

Hitherto, however, we have only arrived at a written language. In order to translate this written into a spoken language, the Bishop has expressed his forty genera or classes by such sounds as *ba*, *be*, *bi*, *da*, *de*, *di*, *ga*, *ge*, *gi*, all compositions of vowels, with one or other of the best sounding consonants. The differences under each of these genera he expresses by adding to the syllable denoting the genus one of the following consonants, b, d, g, p, t, c, z, s, n, according to the order in which the differences were ranked before in the tables under each genus, b expressing the first difference, d the second, and so on.

The species is then expressed by putting after the consonant which stands for the difference one of the seven vowels, or, if more be wanted, the diphthongs.

Thus we get the following radicals, corresponding to the general table of notions, as given above:

I.	Transcendentals	General	B*a*
II.		Relation Mixed	Ba
III.		Relation of Action	Be
IV.		Discourse	Bi
V.		God	D*a*
VI.		World	Da
VII.		Element	De
VIII.		Stone	Di
IX.		Metal	Do

X.		Leaf	Herbs	Ga
XI.		Flower		Ga
XII.		Seed-vessel		Ge
XIII.		Shrub . . .		Gi
XIV.		Tree . . .		Go
XV.		Exsanguineous .		Za
XVI.	Animals	Fish . . .		Za
XVII.		Bird . . .		Ze
XVIII.		Beast . . .		Zi
XIX.	Parts	Peculiar . . .		Pa
XX.		General . . .		Pa
XXI.	Quantity	Magnitude . .		Pe
XXII.		Space . . .		Pi
XXIII.		Measure . . .		Po
XXIV.	Quality	Natural Power .		Ta
XXV.		Habit . . .		Ta
XXVI.		Manners . .		Te
XXVII.		Quality, sensible .		Ti
XXVIII.		Sickness . .		To
XXIX.	Action	Spiritual . .		Ca
XXX.		Corporeal . .		Ca
XXXI.		Motion . . .		Ce
XXXII.		Operation . .		Ci
XXXIII.	Relation	Œconomical . .		Co
XXXIV.		Possessions . .		Cy
XXXV.		Provisions . .		Sa
XXXVI.		Civil . . .		Sa
XXXVII.		Judicial . . .		Se
XXXVIII.		Military . . .		Si
XXXIX.		Naval . . .		So
XL.		Ecclesiastical. .		Sy

The differences of the first genus would be expressed by,

Bab, bad, bag, bap, bat, bac, baz, bas, ban.

The species of the first difference of the first genus would be expressed by.

Baba, baba, babe, babi, babo, babs, baby, babyi, babys.

According to the system of Bishop Wilkins, as explained before, *baba* would mean being, *baba* thing, *babe* notion, *babi* name, *babo* substance, *babu* quantity, *baby* action, *babyi* relation.

For instance, if *De* signify element, he says, then *Deb* must signify the first difference, which, according to my tables, is fire; and *Deba* will denote the first species, which is flame. *Det* will be the fifth difference under that genus, which is appearing meteor; *Deta* the first species, viz. rainbow; *Deta* the second, viz. halo.

Thus if *Ti* signify the genus of Sensible Quality, then *Tid* must denote the second difference, which comprehends colours, and *Tida* must signify the second species under that difference, viz. redness, &c.

The principal grammatical variations, laid down in the philosophical grammar, are likewise expressed by certain letters. If the word, he writes, is an adjective, which, according to his method, is always derived from a substantive, the derivation is made by the change of the radical consonant into another consonant, or by adding a vowel to it. Thus, if *Da* signifies God, *dua* must signify divine; if *De* signifies element, then *due* must signify elementary; if *Do* signifies stone, then *duo* must signify stony. In like manner voices and numbers and such-like accidents of words are formed, particles receive their phonetic representatives; and in the end, all his materials being shaped, a complete grammatical translation of the Lord's Prayer is given by the Bishop in his own newly-invented philosophical language.

I hardly know whether the account here given of

the artificial language invented by Bishop Wilkins will be intelligible, for, in spite of the length to which it has run, many points had to be omitted which would have placed the ingenious conceptions of its author in a much brighter light. My object was chiefly to show that to people acquainted with a real language, the invention of an artificial language is by no means an impossibility, nay, that such an artificial language might be much more perfect, more regular, more easy to learn, than any of the spoken tongues of man. The number of radicals in the Bishop's language amounts to not quite 3,000, and these, by a judicious contrivance, are sufficient to express every possible idea. Thus the same radical, as we saw, expresses with certain slight modifications, noun, adjective, and verb. Again, if *Da* is once known to signify God, then *ida* must signify that which is opposed to God, namely, *idol*. If *dab* be spirit, *odab* will be body; if *dad* be heaven, *odad* will be hell. Again, if *saba* is king, *sava* is royalty, *salba* is reigning, *samba* to be governed, &c.

Volapük, Pasilingua, etc.

It must be clear from these extracts how totally different in character and purpose were these schemes of a universal, because philosophical, language from the schemes lately put forward under such names as Volapük, Pasilingua, Lingvo Esperanto, &c. The propounders of these systems have a purely practical purpose. They take one or more languages as they find them, try to remove all irregularities, and by simplifying both grammar and dictionary, to facilitate

the acquirement of an easy means of communication. Such experiments are quite unobjectionable, and, if properly conducted, may in time lead to something like a telegraphic language for the whole world. But they have nothing in common with the ideas of Descartes, Wilkins, and Leibniz.

Reason and Language Inseparable.

Let us now resume the thread of our argument. We saw that in an artificial language, the whole system of our notions, once established, may be matched to a system of phonetic exponents; but we maintain, until we are taught the contrary, that no real language was ever made in this manner.[1]

There never was an independent array of determinate conceptions waiting to be matched with an independent array of articulate sounds. As a matter of fact, we never meet with articulate sounds except as wedded to determinate ideas; nor do we ever meet with determinate ideas except as bodied forth in articulate sounds. This is a point of some importance on which there ought not to be any doubt or haze, and I therefore declare my conviction, whether right or wrong, as explicitly as possible, that thought, in one sense of the word, i. e. in the sense of reasoning, is impossible without language or without signs. After what I stated in my former lectures, I shall not be understood as here denying the reality of thought or mental activity in animals. Animals and infants who are without language, are alike without reason; but

[1] See an important letter of Descartes on the same subject in his *Œuvres complètes*, ed. Cousin, v. 61; quoted in the French translation of my Lectures.

the difference between animal and infant is, that the infant possesses the healthy germs of speech and reason, only not yet developed into actual speech and actual reason, whereas the animal has no such germs or faculties, capable of development in its present state of existence. We must concede to animals 'sensation, perception, memory, will, and judgment,' but we cannot allow to them a trace of what the Greek called *lógos*, i. e. reason, literally, gathering, a word which most rightly and naturally expresses in Greek both speech and reason.[1] Animals were called by the Greek *áloga*, whether in the sense of without reason, or in the sense of speechless. *Lógos* is derived from *légein*, which, like Latin *legere*, means, originally, to gather. Hence, *katálogos*, a catalogue, a gathering, a list; *collectio*, a collection. In Homer,[2] *légein* is hardly ever used in the same sense of saying, speaking or meaning, but always in the sense of gathering, or, more properly, of telling, for to *tell* is the German *zählen*, and means originally to count, to cast up. *Lógos*, used in the sense of reason, meant originally, like the English *tale*, or the German *Zahl*,[3] gathering; for reason, 'though it penetrates into the depths of the sea and earth, elevates our thoughts as high as the stars, and leads us through the vast spaces and large rooms of this mighty fabric,'[4] is nothing more or less than the gathering up of the single by

[1] Cf. Farrar, p. 125; Heyse, p. 41.

[2] Od. xiv. 197: *οὔ τι διαπρήξαιμι λέγων ἐμὰ κήδεα θυμοῦ*. Ulysses says he should never finish if he were to tell the sorrows of his heart, i. e. if he were to count or record them, not simply if he were to speak of them.

[3] *Exod.* v. 8, the tale, i.e. the number of the bricks.

[4] Locke, *On the Understanding*, iv. 17, 9.

means of the general.[1] To sum up, as Kant says, it is the office of the senses to perceive, and the office of the understanding to think; but to think is to unite different conceptions in one act of consciousness.[2] The Latin *intelligo*, i. e. *inter-ligo*, for *inter-lego*, expresses most graphically the interlacing of the general and the single, which is the peculiar province of the intellect. Expressions like *cogitare*, i. e. *co-agitare*, or to *comprehend*, rest on similar metaphors. But *Lógos* used in the sense of word, means likewise a gathering, for every word, or, at least, every name is based on the same process; it represents the gathering of single impressions under one general conception. As we cannot tell or count quantities without numbers, we cannot tell or recount things without words. There are tribes, we are told, that have no numerals beyond four. Should we say that they do not know if they have five children instead of four? They certainly do, as much as a cat knows that she has five kittens, and will look for the fifth, if it has been taken away from her. But if they have no numerals beyond four, they cannot reason beyond four. They would not know, as little as children know it, that two and three make five, but only that two and three make many.

[1] This, too, is well put by Locke (iii. 3, 20) in his terse and homely language: 'I would say that all the great business of genera and species, and their essences, amounts to no more but this: that men making abstract ideas, and settling them in their minds, with names annexed to them, do thereby enable themselves to consider things, and discourse of them, as it were, *in bundles*, for the easier and readier improvement and communication of their knowledge, which would advance but slowly were their words and thoughts confined only to particulars.'

[2] Kant, *Proleg.* p, 60.

Formation of Names.

Man could not name a tree, or an animal, or a river, or any object whatever in which he took an interest, without discovering first some general quality that seemed at the time the most characteristic of the object to be named;[1] or, to borrow an expression of Thomas Aquinas (I. P. 9. 13, art. 9. ed. 2.), *Nomina non sequuntur modum essendi, qui est in rebus, sed modum essendi, secundum quod in cognitione nostra est.*[2] In the lowest stage of language, an imitation of the neighing of the horse would have been sufficient to call or recall the horse. Savage tribes are great mimics, and imitate the cries of animals with wonderful success. But this is not yet language. There are cockatoos who, when they see cocks and hens, will begin to cackle as if to inform us of what they see. This is not the way in which the words of our languages were formed. There is no trace of *neighing* in the Aryan names for *horse*. In naming the *horse*, the quality that struck the mind of the Aryan man as the most prominent was its swiftness. Hence from the root as,[3] to be sharp or swift (which we have in Latin *acus*, needle, and in the French diminutive *aiguille*, in *acuo*, I sharpen, in *acer*, quick, sharp, shrewd, in *acrimony* and even in *'cute*), was derived asva, the runner, the horse. This asva appears in

[1] This point has been well discussed by Dr. Otto Caspari, *Die Sprache als psychischer Entwickelungsgrund*: Berlin, 1864.

[2] *La Science de Langage*, par Alfred Gilly: Paris, 1868.

[3] Cf. Sk. âsu, quick, ὠκύς, ἀκωκή, point, and other derivatives given by Curtius, *Griechische Etymologie*, i. 101. The Latin *catus*, sharp, has been derived from Sk. so (syati), to whet.

Lithuanian as *aszva* (mare), in Latin as *ekvus*, i. e. *equus*, in Greek as ἵκκος,[1] or ἵππος, in Old Saxon as *ehu*. Many a name might have been given to the horse besides the one here mentioned; but, whatever name was given, it could only be formed by laying hold of the horse by means of some general quality, and by thus arranging the horse, together with other objects, under some general category. Many names might have been given to *wheat*. It might have been called eared, nutritious, graceful, waving, golden, the child of the earth, &c. But it was called simply the *white*, the white colour of its grain seeming to distinguish it best from those plants with which otherwise it had the greatest similarity. For this is one of the secrets of *onomatopoësis*, or name-poetry, that each name should express, not the most important or specific quality, but that which strikes our fancy,[2] and seems most useful for the purpose of making other people understand what we mean. If we adopted the language of Locke, we should say that men were guided by *wit* rather than by *judgment*, in the formation of names. *Wit*, he says, lies most in the assemblage of ideas, and putting those together with quickness and variety, wherein can be found any resemblance or congruity, thereby to make up pleasant pictures, and agreeable visions, in the fancy: judgment, on the contrary, lies quite on the other side, in separating carefully, one from another, ideas wherein can be found the least difference,

[1] *Etym. Magn.* p. 474, 12, ἵκκος σημαίνει τὸν ἵππον. Curtius, *G. E.* ii. 49.

[2] Pott, *Etym. F.* ii. 139.

thereby to avoid being misled by similitude, and by affinity, to take one thing for another.[1] While the names given to things according to Bishop Wilkins' philosophical method would all be founded on judgment, those given by the early framers of language repose chiefly on wit or fancy. Thus wheat was called the white plant, *hwaiteis* in Gothic, in A. S. *hwæte*, in Lithuanian *kwetys*, in English *wheat*, and all these words point to the Sanskrit sveta, i. e. white, the Gothic *hweits*, the A. S. *hwît*. In Sanskrit, sveta, white, is not applied to wheat (which is called godhûma, the smoke or waves of the earth), but it is applied to many other herbs and weeds, and as a compound (svetasunga, white-awned) it entered into the name of barley. In Sanskrit, silver is counted as white, and called sveta, and the feminine svetî, was once a name of the dawn, just as the French *aube*, dawn, which was originally *alba*. We arrive at the same result whatever words we examine; they always express a general quality, supposed to be peculiar to the object to which they are attached. In some cases this is quite clear, in others it has to be brought out by minute etymological research.

To those who approach these etymological researches with any preconceived opinions, it must be a frequent source of disappointment, when they have traced a word through all its stages back to its first starting-point, to find in the end, or rather in the beginning, nothing but roots of the most general powers, meaning to go, to move, to run, to do. But on closer consideration, this, instead of being dis-

[1] Locke, *On the Human Understanding*, ii. 11, 2.

appointing, should rather increase our admiration for the wonderful powers of language, man being able out of these vague and pale conceptions to produce names expressive of the minutest shades of thought and feeling. It was by a poetical fiat that the Greek *próbata*, which originally meant no more than things walking forward, became in time the name of cattle, and particularly of sheep. In Sanskrit, sarit, meaning *goer*, from sar, to go, became the name of river; sara, meaning the same, what runs or goes, was used for sap, but not for river. Thus dru, in Sanskrit, means to run, dravat, quick; but drapsa is restricted to the sense of a drop, *gutta*. The Latin *ævum*, meaning going, from *i*, to go, became the name of time, age; and its derivative *æviternus*, or *æternus*, was made to express eternity. Thus in French, *meubles* means literally anything that is moveable, but it became the name of chairs, tables, and wardrobes. In ancient Greek *áloga*, without reason, was used for brute animals in general. In modern Greek *álogon* has become the name for horse.[1] *Viande*, originally *vivenda*,[2] the English *viands*, that on which one lives, came to mean meat. *Frumentum*, lit. what serves for food, from *frui*, means in Latin corn in general; *froment* in French is wheat.

Jumentum in Latin means a beast of burden; *jument*

[1] ἄλογον, horse, occurs as early as 1198 in the *Syllabus Græc. Membr. ed. Trinchera*, p. 334: καὶ τὸ ἄλογόν μου τὸ μαύριον, τὸ δὲ -λογόν μου τὸ βάδιον, et equum meum nigrum, badium vero.

[2] 'La viande estoit un peu de poirée,' dit l'auteur de la *Vie d'Isabella*, sœur de Saint-Louis. 'On ne pouvoit mie assez trouver viandes aux hommes et aux chevaux, rapporte la chronique de Saint-Denis.' Michel Bréal, *De la Méthode comparative*, 1864, p. 15.

in French is a mare. A table, the Latin *tabula*, is originally what stands, or that on which things can be placed or stood; it now means what dictionaries define as 'a horizontal surface raised above the ground, used for meals and other purposes.' The French *tableau*, picture, again goes back to the Latin *tabula*, a thing stood up, exhibited, and at last to the root *stâ* of *stare*, to stand. A *stable*, the Latin *stabulum*, comes from the same root, but it was applied to the standing-place of animals, to stalls or sheds. That on which a thing stands or rests is called its *base*, and *basis* in Greek meant originally no more than going, the base being conceived as ground on which it is safe to walk. What can be more general than *facies*, originally the make or shape of a thing, then the *face*? Yet the same expression is repeated in modern languages, *feature* being evidently a mere corruption of *factura*, the make. On the same principle the moon was called *luna*, i. e. *losna*, or *lucina*, the shining; the lightning, *fulmen* from *fulgere*, the bright; the stars *stellæ*, i. e. *sterulæ*, the Sanskrit staras, from str*î*, to strew, the strewers of light.

All these etymologies may seem very unsatisfactory, vague, uninteresting, yet, if we reflect for a moment, we shall see that in no other way but this could the mind, or the gathering power of man, have comprehended the endless variety of nature [1] under a limited number of categories or names. What Bunsen called

[1] Cf. Sankara on Vedânta-Sûtra, 1, 3, 28 (Muir, *Sanskrit Texts*, iii. 67), âkr*i*tibhis *k*a *s*abdânâm sambandho na vyaktibhi*h*, vyaktînâm ânantyât sambandhagraha*n*ânupapatte*h*. 'The relation of words is with the genera, not with individuals; for, as individuals are endless, it would be impossible to lay hold of relations.'

'the first poesy of mankind,' the creation of words, is no doubt very different from the sensational poetry of later days; yet its very poverty and simplicity render it all the more valuable in the eyes of historians and philosophers. For of this first poetry, simple as it is, or of this first philosophy in all its childishness, man only is capable. He is capable of it because he can gather the single under the general; he is capable of it because he has the faculty of speech; he is capable of it—we need not fear the tautology—because he is man.

No Speech without Reason.

Without speech no reason, without reason no speech. It is curious to observe the unwillingness with which many philosophers admit this, and the attempts they make to escape from this conclusion, all owing to the very influence of language which, in most modern dialects, has produced two words, one for language, the other for reason; thus leading the speaker to suppose that there is a substantial difference between the two, and not a mere formal difference.[1] Thus Brown says: 'To be without language, spoken or written, is *almost* to be without thought.'[2] But he qualifies this *almost* by what follows: 'That man can reason without language of any kind, and consequently without general terms—though the opposite opinion is maintained by many very eminent philoso-

[1] In Dutch there is no difference between *rede*, oratio, and *rede*, ratio, though Siegenbeek, in his authorised grammar of the Dutch language, 1804, tries to distinguish between *rede*, speech, and *reden*, reason, cause. *Redeloos* is irrational, *redelijk*, rational, reasonable, the German *redlich*; *redenaar*, an orator.

[2] *Works*, i. p. 475.

phers—seems to me not to admit of any reasonable doubt, or, if it required any proof, to be sufficiently shown by the very invention of language which involves these general terms, and still more sensibly by the conduct of the uninstructed deaf and dumb [1]—to which also the evident marks of reasoning in the other animals—of reasoning which I cannot but think as unquestionable as the instincts that mingle with it—may be said to furnish a very striking additional argument from analogy.'

Deaf and Dumb People.

The *un*instructed deaf and dumb, however, have never given any signs of reason, in the true sense of the word, though to a certain extent all the deaf and dumb people that live in the society of other men catch something of the rational behaviour of their neighbours.[2] When instructed, the deaf and dumb certainly acquire general ideas even, without being able in every case to utter distinctly the phonetic exponents or embodiments of these ideas which we call words. But this is no objection to our general argument. The deaf and dumb are taught by those who possess both these general ideas and their phonetic embodi-

[1] *Works*, ii. p. 446.

[2] 'Un médecin célèbre de l'institution des sourds-muets, Itart, nous a dépeint l'état intellectuel et moral des hommes qu'un mutisme congénital laissait réduits à leur propre expérience. Non-suelement ils subissent une véritable rétrogradation intellectuelle et morale qui les reporte en quelque sorte aux premiers temps des sociétés; mais leur esprit, formé en partie aux notions qui nous parviennent par les sens, ne saurait se développer.' Claude Bernard, 'Exposé des Faits et du Principe de la Physiologie moderne,' *Revue ethnographique*, 1869, p. 253.

ments, elaborated by successive generations of rational men. They are taught to think the thoughts of others, and if they cannot pronounce their words, they lay hold of these thoughts by other signs, and particularly by signs that appeal to their sense of sight, in the same manner as words appeal to our sense of hearing. These signs, however, are not the signs of things or their conceptions, as words are: they are the signs of signs, just as written language is not an image of our thoughts, but an image of the phonetic embodiment of thought. Alphabetic writing is the image of the sound of language, hieroglyphic writing the image of language or thought.

One of the highest authorities on the teaching of deaf and dumb people, Samuel Heinicke (1729–90), the founder of the German system of education of the deaf and dumb, says, 'the deaf and dumb must be educated in order to be able to think in concepts, and that in sounding and articulated words of our language, if for is to learn from us, to understand us, and equally to communicate with us. The thinking of the deaf and dumb without teaching, if one may call so the irregular concatenation of his dark representations, moves only in the sphere of sensuous intuitions, and its forms and his language are rude and often very uncertain words, framed by himself, imitating external impressions, and rendering received impressions. We do not think in written, but in articulated and sounding words. The written word is the representation of the articulated word for the sense of sight, and is taken as an expression of thought only on the supposition of language. It is impossible

to think in writing, without some whispering support of articulation, because writing absent from sight, is not representable in the soul.'

Locke.

The same supposition that it is possible to reason without signs, that we can form mental conceptions, nay, even mental propositions, without words, runs through the whole of Locke's philosophy.[1] He maintains over and over again, that words are signs *added* to our conceptions, and added arbitrarily. He imagines a state

> In which man, though possessed of a great variety of thoughts, and such from which others, as well as himself, might receive profit and delight, was unable to make these thoughts appear. The comfort and advantage of society, however, not being to be had without communication of thoughts, it was necessary that man should find out some external sensible signs, whereby those invisible ideas of which his thoughts are made up might be made known to others. For this purpose, nothing was so fit, either for plenty or quickness, as those articulate sounds, which, with so much ease and variety, he found himself able to make. Thus we may conceive how words, which were by nature so well adapted to that purpose, came to be made use of by men as the signs of their ideas; not by any natural connexion there is between particular articulate sounds and certain ideas; for then there would be but one language amongst all men; but by a voluntary composition, whereby such a word is made arbitrarily the mark of such an idea.

Locke admits, indeed, that it is almost unavoidable, in treating of mental propositions, to make use of words. 'Most men, if not all,' he says (and who are they that are here exempted?) 'in their thinking

[1] Locke, *On the Human Understanding*, iii. 2, 1.

and reasoning within themselves, make use of words, instead of ideas, at least when the subject of their meditation contains in it complex ideas.'[1] But this is in reality an altogether different question; it is the question whether, after our notions have once been realised in words, it is possible to use words without reasoning, and not whether it is possible to reason without words. This is clear from the instances given by Locke.

> Some confused or obscure notions (he says) have served their turns; and many who talk very much of religion and conscience, of church and faith, of power and right, of obstructions and humours, melancholy and choler, would, perhaps, have little left in their thoughts and meditations, if one should desire them to think only of the things themselves, and lay by those words, with which they so often confound others, and not seldom themselves also.[2]

In all this there is, no doubt, great truth; yet, strictly speaking, it is as impossible to use words without thought, as to think without words. Even those who talk vaguely about religion, conscience, &c. have at least a vague notion of the meaning of the words they use; and if they ceased to connect any ideas, however incomplete and false, with the words they utter, they could no longer be said to speak, but only to make noises. The same holds good if we invert our proposition. It is possible, without language, to see, to perceive, to stare at, to dream about things; but, without words, not even such simple ideas as white or black can for a moment be realised.

We cannot be careful enough in the use of our words. If reasoning is used synonymously with

[1] Locke, *l. c.* iv. 5, 4. [2] Ibid.

knowing or thinking, with mental activity in general, it is clear that we cannot deny it either to the uninstructed deaf and dumb, or to infants and animals.[1] A child *knows* as certainly before it can speak the difference between sweet and bitter (i. e. that sweet is not bitter), as it knows afterwards (when it comes to speak) that wormwood and sugar-plums are not the same thing.[2] A child receives the sensation of sweetness; it enjoys it, it recollects it, it desires it again; but it does not know what sweet is; it is absorbed in its sensations, its pleasures, its recollections; it cannot look at them from above, it cannot reason on them, it cannot tell of them.[3] This is well expressed by Schelling.

Without language (he says) it is impossible to conceive philosophical, nay, even any human consciousness; and hence the foundations of language could not have been laid consciously. Nevertheless, the more we analyse language, the more clearly we see that it transcends in depth the most conscious productions of the mind. It is with language as with all organic beings; we imagine they spring into being blindly, and yet we cannot deny the intentional wisdom in the formation of every one of them.[4]

Hegel speaks more simply and more boldly. 'It is in names,' he says, 'that we think.'[5]

[1] *Amusement philosophique sur le Langage des Bestes*, par le Père Bougeant: Paris, 1739.

[2] Locke, *l. c.* i. 2, 15.

[3] 'A child certainly *knows* that a stranger is not its mother; that its sucking-bottle is not the rod, long before he knows that it is impossible for the same thing to be and not to be.'—Locke, *On the Human Understanding*, iv. 7, 9.

[4] *Einleitung in die Philosophie der Mythologie*, p. 52; Pott, *Etymologische Forschungen*, ii. 261.

[5] Carrière, *Die Kunst im Zusammenhang der Culturentwickelung*, p. 11.

The Sound of Words has no independent existence.

It may be possible, however, by another kind of argument, less metaphysical perhaps, but more convincing, to show clearly that reason cannot become real without speech. Let us take any word, for instance, *experiment*. It is derived from *experior*. *Perior*, like Greek *perân*,[1] would mean to go through. *Perîtus* is a man who has gone through many things; *periculum*, something to go through, a danger. *Experior* is to go through and come out (the Sanskrit, vyutpad); hence *experience* and *experiment*. The Gothic *faran*, the English *to fare*, are the same words as *perân*; hence the German *Erfahrung*, experience, and *Gefahr*, periculum; *Wohlfahrt*, welfare, the Greek *euporía*. As long then as the word experiment expresses this more or less general idea, it has a real existence. But take the mere sound, and change only the accent, and we get *experíment*, and this is nothing. Change one vowel or one consonant, *exporiment* or *esperiment*, and we have mere noises, what Heraclitus would call a mere *psóphos*, but no words. *Cháracter*, with the accent on the first syllable, has a meaning in English, but none in German or French; *charácter*, with the accent on the second syllable, has a meaning in German, but none in English or French; *charactère*, with the accent on the last, has a meaning in French, but none in English or German. It matters not whether the sound is articulate or not; articulate sound without meaning is even more unreal than inarticulate sound. If, then,

[1] Curtius, *G. E.* i. 237.

these articulate sounds, or what we may call the body of language, exist nowhere, have no independent reality, what follows? I think it follows that this so-called body of language could never have been taken up anywhere by itself, and added to our conceptions from without; from which it would follow again that our conceptions, which are now always clothed in the garment of language, could never have existed in a naked state. This would be perfectly correct reasoning, if applied to anything else; nor do I see that it can be objected to as bearing on thought and language. If we never find skins except as the teguments of animals, we may safely conclude that skins cannot exist without animals. If colour cannot exist by itself (*ἅπαν γὰρ χρῶμα ἐν σώματι*), it follows that neither can anything that is coloured exist without colour. A colouring substance may be added or removed; but colour without some substance, however ethereal, is, *in rerum naturâ*, as impossible as substance without colour, or as substance without form or weight.

Granting, however, to the fullest extent, the one and indivisible character of language and thought, agreeing even with the Polynesians, who express thinking by speaking in the stomach,[1] we may yet, I think, for scientific purposes, claim the same liberty which is claimed in so many sciences, namely, the liberty of treating separately what in the nature of things cannot be separated. Though colour cannot be separated from some ethereal substance, yet the science of optics treats of light and colour as if they

[1] Farrar, p. 125.

existed by themselves. The geometrician reasons on lines without taking cognisance of their breadth, of planes without considering their depth, of bodies without thinking of their weight. It is the same in language, and though I consider the identity of language and reason as one of the fundamental principles of our science, I think it will be most useful to begin, as it were, by dissecting the dead body of language, by anatomising its phonetic structure, without any reference to its function, and then to proceed to a consideration of language in the fulness of life, and to watch its energies, both in what we call its growth and its decay.

CHAPTER III.

THE ALPHABET.

WE proceed now to dissect the body of language. In doing this we treat language as a mere corpse, not caring whether it ever had any life or meaning, but simply trying to find out what it is made of, how sounds are produced, how impressions are made upon our ear, and how they can be classified. In order to do this it is not sufficient to examine our alphabet, such as it is, though no doubt the alphabet, if arranged according to scientific principles, may very properly be called the table of the elements of language.

Greek Classification of Letters.

But what do we learn from our A B C? what even, if we are told that *k* is a guttural tenuis, *s* a dental sibilant, *m* a labial nasal, *y* a palatal liquid? These are names which are borrowed from Greek and Latin grammars. They expressed more or less happily the ideas which the scholars of Athens and Alexandria had formed of the nature of certain letters. But these ideas were by no means always correct, and, as translated into our grammatical phraseology they have frequently lost their original meaning. Our

modern grammarians speak of *tenuis* and *media*, but they define *tenuis* not as a bare or thin letter, so called originally in opposition to the aspirated consonants which in Greek were spoken of as thick, rough or shaggy (δασύ), but on the contrary as the hardest and strongest articulation; nor are they always aware that the *mediæ* or middle letters were originally so called because, as pronounced at Alexandria, they seemed to stand halfway between the bare and the rough letters, i. e. the aspirates, being pronounced with less breath than the aspirates, with more than the tenues.[1] Plato's division of letters, as given in his *Cratylus*, is very much that which we still profess to follow. He speaks of voiced letters (φωνήεντα, vocales), our vowels; and of voiceless letters (ἄφωνα), our consonants, or mutes. But he divides the latter into two classes: first, those which are voiceless, but not soundless (φωνήεντα μὲν οὔ, οὐ μέντοι γε ἄφθογγα), afterwards called semi-vowels (ἡμίφωνα); and secondly, the real mutes, both voiceless and soundless, i.e. all consonants, except the semi-vowels (ἄφθογγα).[2] In

[1] Scholion to Dionysius Thrax, in *Anecdota Bekk.* p. 810: Φωνητικὰ ὄργανα τρία εἰσίν, ἡ γλῶσσα, οἱ ὀδόντες, τὰ χείλη. Τοῖς μὲν οὖν ἄκροις χείλεσι πιλουμένοις ἐκφωνεῖται [τὸ π], ὥστε σχεδὸν μηδὲ ὀλίγον τι πνεῦμα παρεκβαίνειν· ἀνοιγομένων δὲ τῶν χειλέων πάνυ καὶ πνεύματος πολλοῦ ἐξιόντος, ἐκφωνεῖται τὸ φ· τὸ δὲ β, ἐκφωνούμενον ὁμοίως τοῖς ἄκροις τῶν χειλέων, τουτέστι περὶ τὸν αὐτὸν τύπον τοῖς προλεχθεῖσι τῶν φωνητικῶν ὀργάνων, οὔτε πάνυ ἀνώγει τὰ χείλη ὡς τὸ φ, οὔτε πάνυ πιλεῖ ὡς τὸ π, ἀλλὰ μέσην τινὰ διέξοδον τῷ πνεύματι πεφεισμένως δίδωσιν, κ.τ.λ. See Rudolph von Raumer, *Sprachwissenschaftliche Schriften*, p. 102, who shows that the Scholion was written before 730 A.D.; Curtius, *Griechische Etymologie*, ii. p. 30. It is clear that the scholiast speaks of the pronunciation of his own time, when the aspirates had become mere spirants, and when the mediæ, too, approached to that pronunciation which they have in modern Greek.

[2] Raumer, *l. c.* p. 100.

later times, the scheme adopted by Greek grammarians is as follows:—

I. *Phōnēenta*, vocales, voiced, vowels.

II. *Sýmphōna*, consonantes.

II. 1. *Hēmíphōna*, semi-vocales, half-voiced, l, m, n, r, s; or, *Hygrá*, liquidæ, fluid, l, m, n, r.

II. 2. *Áphōna*, mutæ.

a. *Psilá*, tenues (hard, surd); b. *Mésa*, mediæ (soft, sonant); c. *Daséa*, aspiratæ.

k, t, p.	g, d, b.	ch, th, ph.

The Prâtisâkhyas.

Another classification of letters, more perfect, because deduced from a language (the Sanskrit) at a time when it was not yet reduced to writing, but carefully watched, and preserved by oral tradition, is to be found in the so-called Prâtisâkhyas, works on phonetics, belonging to different schools in which the ancient texts of the Veda were handed down from generation to generation with an accuracy far exceeding that of the most painstaking copyists of MSS. Some of these works have lately been published and translated, and may be consulted by those who take an interest in these matters.[1]

[1] Prâtisâkhya du Rig-Veda, par M. Ad. Regnier, in the *Journal asiatique*. Paris, 1856–58.

Text und Uebersetzung des Prâtisâkhya, *oder der ältesten Phonetik und Grammatik*, in M. M.'s edition of the Rig-Veda. Leipzig, 1856.

Das Vâgasanêyi-Prâtisâkhyam, published by Prof. A. Weber, in *Indische Studien*, vol. iv. Berlin, 1858.

The Atharva-Veda Prâtisâkhya, by W. D. Whitney. Newhaven, 1862. The same distinguished scholar has published an edition

Modern Phoneticians and Elocutionists.

Of late years the whole subject of phonetics has been taken up with increased ardour by scientific men, and assaults have been made from three different points by different armies, philologists, physiologists, and mathematicians. The best philological treatises I can recommend (without mentioning earlier works, such as a very excellent treatise by Bishop Wilkins, 1688),[1] are the essays published from time to time by Mr. Melville Bell,[2] Mr. Alexander John Ellis and Mr. Sweet.[3] Other works by R. von Raumer,[4] F. H. du Bois-Reymond,[5] Lepsius,[6] Thausing,[7] may be consulted with advantage in their

of the Prâtisâkhya of the Taittiriya-Veda. A similar work for the Sâmaveda, under the title of *Rik*tantra-vyâkar*ana*, has been discovered and published by Dr. Burnell; Mangalore, 1879.

[1] Republished in Techmer's *Zeitschrift für Allgemeine Sprachwissenschaft*, vol. iv. p. 339.

[2] *A New Elucidation of the Principles of Speech and Elocution*, by Alex. Melville, 1849. The same author has published several other works on phonetics, and has prepared an alphabet which is to indicate the physiological character of each letter, so as really to deserve the name of 'Visible Speech,' a name too freely granted to the ancient systems of writing. See *Visible Speech, a New Fact*, demonstrated by A. Melville Bell. 1865, and 1867. *Lectures on Phonetics*, delivered at Oxford, 1885.

[3] *Primer of Phonetics*, 1890.

[4] *Gesammelte Sprachwissenschaftliche Schriften*, von Rudolph von Raumer. Frankfort, 1863. (Chiefly on classical and Teutonic languages.)

[5] *Kadmus, oder Allgemeine Alphabetik*, von F. H. du Bois-Reymond. Berlin, 1862. (Containing papers published as early as 1811, and full of ingenious and original observations.)

[6] *Lepsius, Standard Alphabet*, second edition, 1863. (On the subject in general, but particularly useful for African languages.)

[7] *Das natürliche Lautsystem der menschlichen Sprache*, von Dr. M. Thausing. Leipzig, 1863. (With special reference to the teaching of deaf and dumb persons.)

respective spheres. The Physiological works which I found most useful and intelligible to a reader not professionally devoted to these studies were Müller's 'Handbook of Physiology,' Brücke's 'Grundzüge der Physiologie und Systematik der Sprachlaute' (Wien, 1856), Funke's 'Lehrbuch der Physiologie,' and Czermak's articles in the 'Sitzungsberichte der k.k. Akademie der Wissenschaften zu Wien.'[1]

Among works on mathematics and acoustics, I have consulted Sir John Herschel's 'Treatise on Sound,' in the 'Encyclopædia Metropolitana;' Professor Willis's paper 'On the Vowel Sounds and on Reed Organ-Pipes,' read before the Cambridge Physiological Society in 1828 and 1829; but chiefly Professor Helmholtz's classical work 'Die Lehre von den Tonempfindungen' (Braunschweig, 1863), a work giving the results of the most minute scientific researches in a clear, classical, and truly popular form, so seldom to be found in scientific books.

The whole subject of Phonetics has lately been treated in the most exhaustive and masterly manner by Dr. Techmer in the first volume of his *Internazionale Zeitschrift für Allgemeine Sprachwissenschaft* Leipzig, 1884.

Spelling Reformers.

I ought not to omit to mention here the valuable services rendered by those who, for nearly fifty years, have been labouring in England to turn the results of scientific research to practical use, in de-

[1] See also *Populäre physiologische Vorträge*, von J. N. Czermak: Wien, 1869.

vising and propagating a new system of 'Brief Writing and True Spelling,' best known under the name of the *Phonetic Reform*. I am far from underrating the difficulties that stand in the way of such a reform, and I am not so sanguine as to indulge in any hopes of seeing it carried for the next three or four generations. But I feel convinced of the truth and reasonableness of the principles on which that reform rests, and as the innate regard for truth and reason, however dormant or timid at times, has always proved irresistible in the end, enabling men to part with all they hold most dear and sacred, whether corn-laws, or Stuart dynasties, or Papal legates, or heathen idols, I doubt not but that the effete and corrupt orthography will follow in their train. Nations have before now changed their numerical figures, their letters, their chronology, their weights and measures; and though Mr. Pitman may not live to see the results of his persevering and disinterested exertions, it requires no prophetic power to perceive that what at present is poohpoohed by the many, will make its way in the end, unless met by arguments stronger than those hitherto levelled at the 'Fonetic Nuz.' One argument which might be supposed to weigh with the student of language, viz. the obscuration of the etymological structure of words, I cannot consider as very formidable. The pronunciation of languages changes according to fixed laws, the spelling has changed in the most arbitrary manner, so that if our spelling followed strictly and unswervingly the pronunciation of words, it would in reality be of greater help to the

critical student of language than the present uncertain and unscientific mode of writing.[1]

Although considerable progress has thus been made in the analysis of the human voice, the difficulties inherent in the subject have been increased rather than diminished by the profound and laborious researches carried on independently by physiologists, students of acoustics, and philologists. The human voice opens a field of observation in which these three sciences meet, and to neglect the results obtained by any one of them is entirely to deprive the study of Phonetics of its scientific character. The substance of speech or sound has to be analysed by the mathematician and the experimental philosopher; the organs or instruments of speech have to be examined by the anatomist; and the history of speech, the actual varieties of sound which have become typified in language, fall to the province of the student of language, and likewise of the practical elocutionist. Under these circumstances it is absolutely necessary that students should co-operate in order to bring these scattered researches to a successful termination; and I take this opportunity of expressing my obligation to Dr. Rolleston, our late Professor of Physiology, Mr. G. Griffith, Deputy-Professor of Experimental Philosophy, Mr. A. J. Ellis, and others, for their kindness in helping me through difficulties which, but for their assistance, I should not have been able to overcome without much loss of time.

[1] See an article of mine in the *Fortnightly Review* for April, 1876, 'On Spelling,' reprinted separately by Mr. Pitman, London, 1880.

highest by 4,000. Between these two lie the usual seven octaves of our musical instruments. It is said to be possible, however, to produce perceptible musical tones through 11 octaves, beginning with 16 and ending with 38,000 double vibrations in one second, though here the lower notes are mere hums, the upper notes mere clinks. The A′ of our tuningforks, as fixed in 1859 by a decree of the French ministry, requires 437·5 double, or 875 single[1] vibrations in one second. In Germany the A′ tuning-fork makes 440 double vibrations in one second. It is clear that beyond the lowest and the highest tones perceptible to our ears, there is a progress *ad infinitum*, musical notes as real as those which we hear, yet beyond the reach of *our* sensuous perception. It is the same with the other senses. We can perceive the movement of the pendulum, but we cannot perceive the slower movement of the hand on the watch. We can perceive the flight of a bird, but we cannot perceive the quicker movement of a cannon-ball. This, better than anything else, shows how dependent we are on our senses; and how, if our senses are our weapons for the discovery of truth, they are likewise the chains that keep us from soaring too high.

Up to this point everything, though wonderful enough, is clear and intelligible. As we hear a note, we can find out, with mathematical accuracy, to how many vibrations in one second it is due; and if we want to produce

[1] It is customary to reckon by single vibrations in France and Germany, although some German writers adopt the English fashion of reckoning by double vibrations or complete excursions backwards and forwards. Helmholtz uses double vibrations, but Scheibler uses single vibrations. De Morgan calls a double oscillation a 'swing-swang.'

the same note, an instrument, such as the siren, which gives a definite number of impulses to the air within a given time, will enable us to do it in the most mechanical manner.

When *two* waves of one note enter the ear in the same time as *one* wave of another, the interval between the two is *an octave*.

When *three* waves of one note enter the ear in the same time as *two* waves of another, the interval between the two notes is a *fifth*.

When *four* waves of one note enter the ear in the same time as *three* waves of another, the interval between the two notes is a *fourth*.

When *five* waves of one note enter the ear in the same time as *four* waves of another, the interval between the two notes is a *major third*.

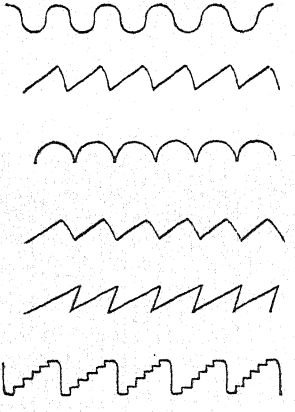
When *six* waves of one note enter the ear in the same time as *five* waves of another, the interval between the two notes is a *minor third*.

When *five* waves of one note enter the ear in the same time as *three* waves of another, the interval between the two notes is a *major sixth*.

All this is but the confirmation of what was known to Pythagoras. He took a vibrating cord, and, by placing a bridge so as to leave $\frac{2}{3}$ of the cord on the right, $\frac{1}{3}$ on the left side, the left portion vibrating by itself gave him the octave of the lower note of the right portion. So, again, by leaving $\frac{3}{5}$ on the right, $\frac{2}{5}$ on the left side, the left portion vibrating gave him the fifth of the right portion.

But it is clear that we may hear the same tone, i.e. the result of exactly the same number of vibra-

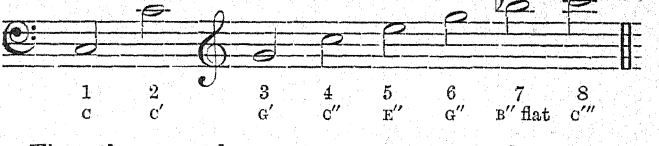
tions in one second, produced by different instruments, such as our vocal organs, a flute, a violoncello, a fife, or a double bass. They are tones of the same pitch, and yet they differ in character, and this difference is called their *quality*. But what is the cause of these various qualities? By a kind of negative reasoning, it had long been supposed that, as quality could neither arise from the amplitude nor from the duration, it must be due to the form of the vibrations. It has now, however, been proved that this is so, by applying the microscope to the vibrations of different musical instruments, and thus catching the exact outline of their respective vibrations—a result which before had been but imperfectly attained by an instrument called the *Phonautograph*. What is meant by the form of waves may be seen from the following outlines:—



The Qualities of Vowels.

It has likewise been shown that the different forms of the vibrations which are the cause of what we call quality or colour, are likewise the cause of the presence or absence of certain harmonics, or by-notes; in fact, that varying quality and varying harmonics are but two expressions of the same thing.

Harmonics are the secondary tones which can be perceived even by the unassisted ear, if, after lifting the pedal, we strike a key on a pianoforte. These harmonics arise from a string vibrating as if its motion were compounded of several distinct vibrations of strings of its full length, and one-half, one-third, one-fourth, &c., part of its length. Each of these shorter lengths would vibrate twice, three times, four times as fast as the original length, producing corresponding tones. Thus, if we strike C, we hear, if listening attentively, C′, G′, C″, E″, G″, B″ flat, C‴, &c.



That the secondary notes are not merely imaginary or subjective can be proved by a very simple and amusing experiment. If we place little soldiers —very light cavalry—on the strings of a pianoforte and then strike a note, all the riders that sit on strings representing the secondary tones will shake, and possibly be thrown off, because these strings

vibrate in sympathy with the secondary tones of the string struck, while the others remain firm in their saddles. Another test can be applied by means of resounding tubes, tuned to different notes. If we apply these to our ear, and then strike a note the secondary tones of which are the same as the notes to which the resounding tubes are tuned, those notes will sound loudly and almost yell in our ears; while if the tubes do not correspond to the harmonics of the note played, the resounding tubes will not answer in the same manner.

We thus see, again, that what seems to us a simple impression, the one note struck on the pianoforte, consists of many impressions which together make up what we hear and perceive. We are not conscious of the harmonics which follow each note and determine its quality, but we know, nevertheless, that these by-notes strike our ear, and that our senses receive them and suffer from them. The same remark applies to the whole realm of our sensuous knowledge. There is a broad distinction between *sensation* and *perception*. There are many things which we perceive at first and which we perceive again as soon as our attention is called to them, but which, in the ordinary run of life, are to us as if they did not exist at all. When I first came to Oxford, I was constantly distracted by the ringing of bells; after a time I ceased even to notice the dinner-bell. There are earrings much in fashion just now—little gold bells with coral clappers. Of course they produce a constant jingling which everybody hears except the lady who wears them in her ears. In

these cases, however, the difference between sensation and perception is simply due to want of attention. In other cases our senses are really incapable, without assistance, of distinguishing the various constituents of the objective impressions produced from without. We know, for instance, that white light is a vibration of ether, and that it is a compound of the single colours of the solar spectrum. A prism will at once analyse that compound, and divide it into its component parts. To our apprehension, however, white light is something simple, and our senses are too coarse to distinguish its component elements by any effort whatsoever.

We now shall be better able to understand what I consider a most important discovery of Professor Helmholtz.[1] It had been proved by Professor G. S. Ohm[2] that there is only one vibration without harmonics, viz. the simple pendulous vibration. It had likewise been proved by Fourier, Ohm, and other mathematicians,[3] that all compound vibrations or sounds can be divided into so many simple or pendulous vibrations. But it is due to Professor Helmholtz that we can now determine the exact configuration of many compound vibrations, and determine the presence and absence of the harmonics which, as we saw, caused the difference in the quality, or colour, or *timbre* of sound. Thus he found that in the violin as compared with the guitar or pianoforte, the primary note is strong, the secondary tones from two to six are weak, while those from seven to ten are much

[1] Helmholtz, *l. c.* p. 82.
[2] *l. c.* p. 38.
[3] *l. c.* p. 54.

more distinct.[1] In the clarionet[2] the odd harmonics only are perceptible, in the hautboy the even harmonics are of equal strength.

Let us now see how all this tells on language. When we are speaking we are in reality playing on a musical instrument, and a more perfect instrument than was ever invented by man. It is a wind-instrument, in which the vibrating apparatus is supplied by the *chordæ vocales*, while the outer tube, or bells, through which the waves of sound pass, are furnished by the different configurations of the mouth.

The Vocal Organs.

I shall try, as well as I can, to describe, with the help of some diagrams, the general structure of this instrument, though in doing so I can only retail the scant information which I gathered myself from our excellent Professor of Physiology at Oxford, Dr. Rolleston. He kindly showed and explained to me by actual dissection, and with the aid of the newly-invented laryngoscope[3] (a small looking-glass, which enables the observer to see as far as the bifurcation of the windpipe and the bronchial tubes), the bones, the cartilages, the ligaments and muscles, which together form that extraordinary instrument on which we play our words and thoughts. Some parts of it are extremely complicated, and I would not venture to act even as interpreter of the different and sometimes contradictory views held by

[1] Helmholtz, *l. c.* p. 143. [2] *l. c.* p. 162.

[3] Czermak, *Über den Kehlkopfspiegel und seine Verwerthung*. Leipzig, 1860; 2nd ed. 1863.

Müller, Brücke, Czermak, Funke, and other distinguished physiologists, on the mechanism of the various cartilages, the *thyroid*, *cricoid*, and *arytenoid*, which together constitute the levers of the larynx. It fortunately happens that the most important organs which are engaged in the formation of letters lie above the larynx, and are so simple in their structure, and so open to constant inspection and examination, that, with the diagrams here inserted, there will be little difficulty, I hope, in explaining their respective functions.

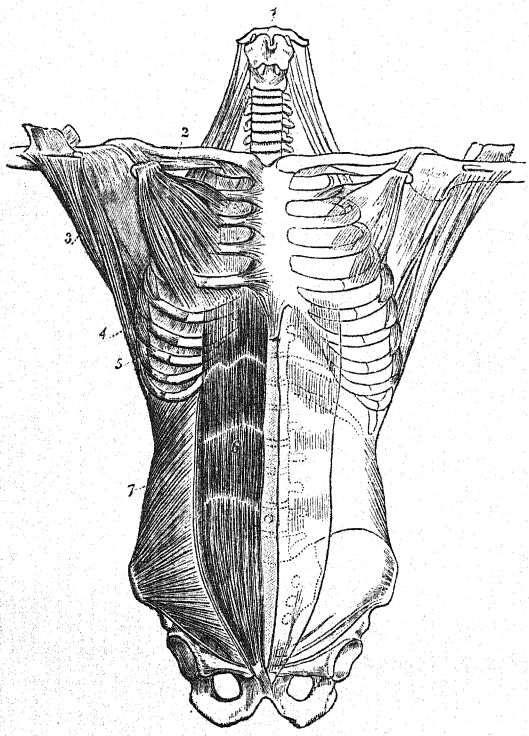
There is, first of all, the *thorax* (1), which, by alternately compressing and dilating the lungs, performs the office of bellows.

The next diagram (2), shows the *trachea*, a cartilaginous and elastic pipe, which terminates in the lungs by an infinity of roots or *bronchial tubes*, its upper extremity being formed into a species of head, called the *larynx*, situated in the throat, and composed of five cartilages.

The uppermost of these cartilages, the *epiglottis* (3), is intended to open and shut, like a valve, the aperture of the *glottis*, i. e. the superior orifice of the larynx (*fissura laryngea pharyngis*). The *epiglottis* is a leaf-shaped elastic cartilage, attached by its narrower end to the thyroid cartilage, and possessing a midrib overhanging and corresponding to the fissure of the glottis. The broader end of the leaf points freely upwards towards the tongue, in which direction the entire cartilage presents a concave, as towards the larynx a convex, outline. In swallowing, the epiglottis falls over the larynx, like a saddle on the back

of a horse. In the formation of certain letters a horizontal narrow fissure may be produced by de-

Fig. 1.



1. Larynx.
2. Pectoralis minor.
3. Latissimus dorsi.
4. Serratus magnus.
5. External intercostals.
6. Rectus abdominis.
7. Internal oblique.

pressing the epiglottis over the vertical false and true vocal chords.

Fig. 2.

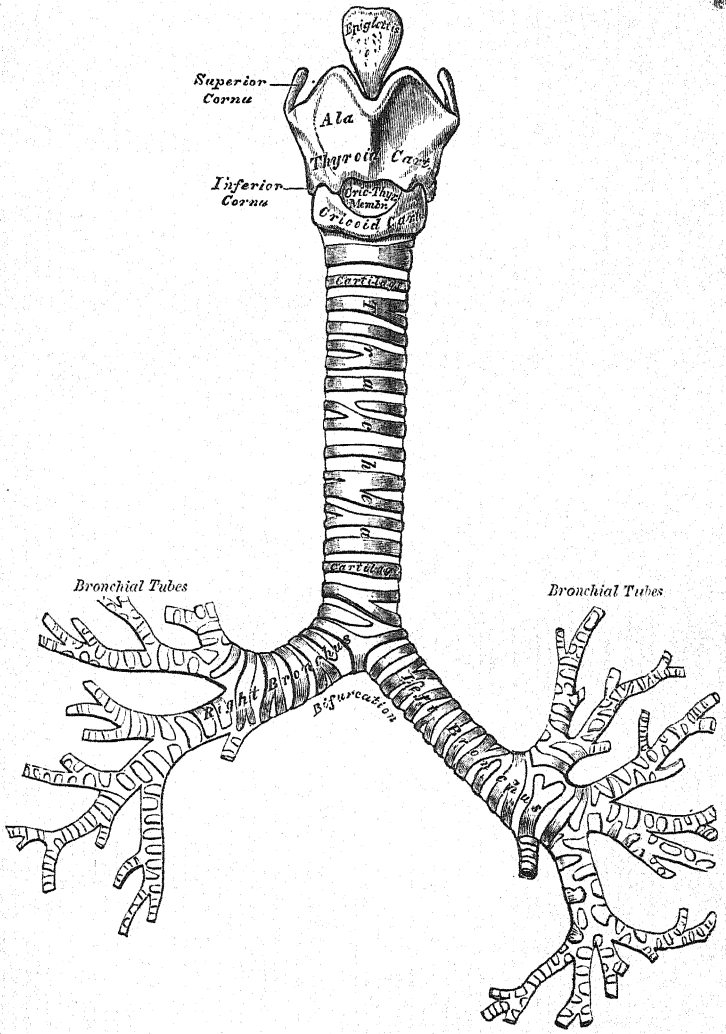
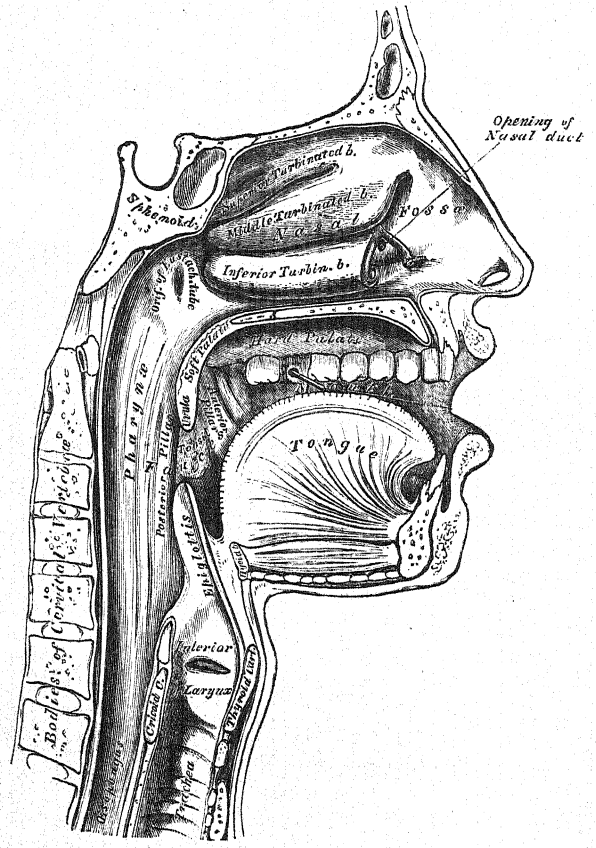

Epiglottis
Superior Cornu
Ala
Thyroid Cart.
Inferior Cornu
Cricoid Cart.
Cartilages
Bronchial Tubes
Bronchial Tubes
Right Bronchus
Bifurcation

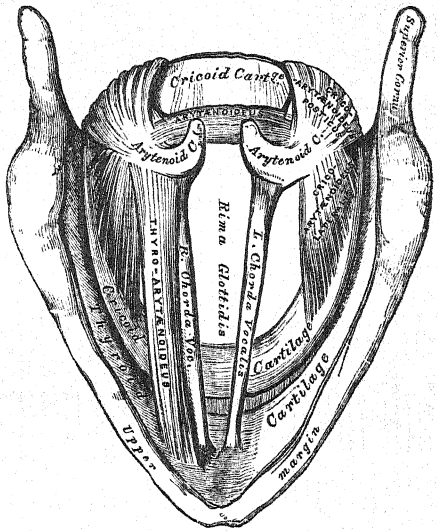
Fig. 3.



Within the larynx (4), rather above its middle, between the thyroid and arytenoid cartilages, are two elastic ligaments, like the parchment of a drum split in the middle, and forming an aperture which is called the interior or true *glottis*, and corresponds in

direction with the exterior *glottis*. This aperture is provided with muscles, which enlarge and contract it at pleasure, and otherwise modify the form of the larynx. The three cartilages of the larynx supply the most perfect mechanism for stretching or relaxing the chords, and likewise, as it would seem, for deadening some portion of them by pressure of a protu-

Fig. 4.



berance on the under-side of the *epiglottis* (in German, Epiglottis-wulst). These chords are of different lengths in children and grown-up people, in man and in woman. Their average length in man is $18\frac{1}{2}$ mm. when relaxed, $23\frac{1}{6}$ mm. when stretched; in woman, $12\frac{2}{3}$ mm. when relaxed, $15\frac{2}{3}$ mm. when stretched: thus giving a difference of about one-

third between the two sexes, which accounts for the different pitch of male and female voices.[1]

The tongue, the cavity of the fauces, the lips, teeth, and palate, with its velum pendulum and uvula performing the office of a valve between the throat and nostrils, as well as the cavity of the nostrils themselves, are all concerned in modifying the impulse given to the breath as it issues from the larynx, and in producing the various vowels and consonants.

Vowels.

After thus taking to pieces the instrument, the tubes and reeds as it were of the human voice, let us now see how that instrument is played by us in speaking or in singing. Familiar and simple as singing or music in general seems to be, it is, if we analyse it, one of the most wonderful phenomena. What we hear when listening to a chorus or a symphony is a commotion of elastic air, of which, to quote from Helmholtz, the wildest sea would give a very inadequate image. The lowest tone which the ear perceives is due to about 30 vibrations in one second, the highest to about 4,000. Consider then what happens in a *Presto,* when thousands of voices and instruments are simultaneously producing waves of air, each wave crossing the other, not only like the surface waves of the water, but like spherical bodies, and, as it would seem, without any perceptible disturbance;[2] consider that each tone is accom-

[1] Funke, *Lehrbuch der Physiologie,* p. 664, from observations made by J. Müller.

[2] Weber, *Wellenlehre,* p. 495.

panied by secondary tones, that each instrument has its peculiar *timbre*, due to secondary vibrations; and, lastly, let us remember that all this cross-fire of waves, all this whirlpool of sound, is moderated by laws which determine what we call harmony, and by certain traditions or habits which determine what we call melody—both these elements being absent in the songs of birds—that all this must be reflected like a microscopic photograph on the two small organs of hearing, and there excite not only perception, but perception followed by a new feeling even more mysterious, which we call either pleasure or pain; and it will be clear that we are surrounded on all sides by miracles transcending all we are accustomed to call miraculous, and yet disclosing to the genius of an Euler or a Newton laws which admit of the most minute mathematical determination.

If we pronounce a vowel, what happens? Breath is emitted from the lungs, and some kind of tube is formed by the mouth through which, as through a clarionet, the breath has to pass before it reaches the outer air. If, while the breath passes the vocal chords, these elastic *laminæ* are made to vibrate periodically, we sing, and the number of the vibrations determines the pitch of our voice, but it has nothing to do with its *timbre*, i.e. its vowel. We may vary the pitch of our voice, without changing its vocal *timbre*. What we call vowels are neither more nor less than the qualities, or colours, or *timbres* of our voice, and these are determined by the form, not by the number, of the vibrations, this form being determined by the form of the buccal tubes.

This had, to a certain extent, been anticipated by Professor Wheatstone in his critique[1] on Professor Willis's ingenious experiments, but it has now been rendered quite evident by the researches of Professor Helmholtz. It is, of course, impossible to watch the form of these vibrations by means of a vibration microscope, but it is possible to analyse them by means of resounding tubes, like those before described; and thus to discover in them what, as we saw, is homologous with the form of vibration, viz. the presence and absence of certain harmonics. If a man sings the same note on different vowels, the harmonics which answer to our resounding tubes vary as they would vary if the same note was played on different instruments, such as the violin, the flute, or the clarionet. In order to remove all uncertainty, Professor Helmholtz simply inverted the experiment. He took a number of tuning-forks, each furnished with a resonance box. By advancing or withdrawing this box he could impart to their primary tones various degrees of strength, and extinguish their secondary tones altogether. He tuned them so as to produce a series of tones answering to the harmonics of the deepest tuning-fork. He then made these tuning-forks vibrate simultaneously by means of a galvanic battery, and by combining the harmonics, which he had first discovered in each vowel by means of the sounding-tubes, he succeeded in reproducing artificially exactly the same vowels.[2]

We know now what vowels are made of. They

[1] *London and Westminster Review*, Oct. 1837, pp. 34, 37.
[2] *l. c.* p. 188.

are produced by various forms imparted to the voice, or to the air which is made to vibrate in its passage through the vocal chords. They vary like the *timbre* of different instruments, and we in reality change the instruments on which we speak when we modify the buccal tubes in order to pronounce *a*, *e*, *i*, *o*, *u* (the vowels to be pronounced as in Italian or in Spanish).

Is it possible, then, to produce a vowel, to evoke a certain timbre of our mouth, without giving at the same time to each vowel a certain musical pitch? This question has been frequently discussed. For a long time it was taken for granted that vowels could not be uttered without pitch. Yet, if a vowel was whispered, it was easy to see that the vocal chords were not vibrating, as they are when we sing, and that they began to vibrate only when the whispered vowel was changed into a voiced vowel. J. Müller proposed a compromise. He admitted that the vowels might be uttered as mutes, and without any definite tone from the vocal chords, but he maintained that these mute vowels were formed in the glottis by the air passing the non-sonant chords.

This view,[1] though in the main correct, has been somewhat modified by later observations, which have shown that in whispering the vocal chords are drawn together, while at the same time the back part of the glottis between the arytenoid cartilages remains open, assuming the form of a triangle.[2] The breath passing

[1] Funke, *Handbuch der Physiologie*, p. 673. Different views of Willis and Brücke, p. 678.

[2] Helmholtz, p. 171. Professor Czermak remarks, that the same effect

through this aperture may produce imperfect vibrations, and these imperfect vibrations would produce the muffled tone that accompanies whispered vowels. In cases of aphonia, where the vocal chords cannot be made to vibrate freely, it is still possible to pronounce the different vowels, and the *vox clandestina*, though a mere whisper, is able to rise and to fall.

Though it is true, therefore, that the vowels can be pronounced without the definite pitch of the perfect voice, it is still held by high authorities, though denied by others equally high, that, even in whispered vowels, some kind of pitch may be distinguished; nay, that there is a pitch peculiar to each vowel, whether voiced or whispered.[1] This was first pointed out by Professor Donders, and afterwards corrected and confirmed by Professor Helmholtz.[2] We can best perceive this if we pronounce a whispered ü, and then allow it gradually to become a whistling, in which case we shall always get the same tone; a most useful discovery as a substitute for a tuning-fork.[3] It will be necessary, I think, to treat these indications of musical pitch in whispered vowels as imperfect tones, that is to say, as noises approaching to tones, or as irregular vibrations, nearly, yet not quite, changed into regular or isochronous vibrations; though the exact limit where a noise ends and tone begins has,

may be and is produced by the larynx assuming different other conformations. 'Über den Spiritus asper,' p. 7. See, however, the same author's remarks in his *Physiologische Vorträge*, 1869, p. 101.

[1] Sir William Thomson, for instance, denies this.

[2] *l. c.* p. 172. That there is some connection between the quality and the pitch of vowels is also seen from the fact, that very high pitch is incompatible with the quality of the vowels *u* and *o*.

[3] Czermak, *Physiologische Vorträge*, p. 113.

as far as I can see, not yet been determined by any philosopher,[1] and the subject requires further careful consideration.

Vowels in all their varieties are really infinite in number. Yet, for practical purposes, certain typical vowels, each with a large margin for dialectic variety, have been fixed upon in all languages, and these we shall now proceed to examine. We cannot take any account of the endless dialectic or local or even personal variations that take place in the pronunciation of vowels, because, however interesting for special purposes, they are of no importance for the elucidation of the general principles of phonetics, with which alone we are here concerned. How far the subdivision of the sounds of the alphabet can be carried may be seen, for instance, in Mr. A. J. Ellis's *Palæotypic Alphabet*, which contains about 270 signs for as many different sounds. When the sounds of a spoken language are submitted to so minute an analysis, it is not surprising that there should be so much variety of opinion between different authorities, and that the same letter should be described in the most divergent ways. Different elocutionists persuade themselves that there is a difference between the *u* in French *lune* and the *ü* in German *über*, between the *eu* in French *peu* and the *ö* in *Goethe*, and yet that the *ö* in the German *Götter*, is the same as the *u* in *gutter*!

But though the Science of Language declines to recognise any but dynamic or functional distinctions of vowels and consonants, that is, any distinctions except

[1] See Brücke, *Grundzüge*, p. 16.

those which are connected with a real change of meaning, it will be useful to the scholar also to learn to what perfection the elocutionist has brought the minute analysis of spoken sounds. It is true that for his own purposes the student of Comparative Philology must always keep before his eyes the system of the typical sounds of any family of speech, however much they may be hidden behind the ever-changing play of dialect. But for this very purpose, for the study of dialects, and more particularly for the study of dialects that have not yet been reduced to writing, a knowledge of such systems as that of Mr. Melville Bell will prove extremely useful, and deserves more attention than it has hitherto received. Mr. Melville Bell complains that there is no representative of 'Visible Speech' in England. But surely both Mr. Ellis and Mr. Sweet have been most energetic apostles of that system, though, whether rightly or wrongly, they may occasionally have deviated from the opinions of its author. I cannot do more here than give a slight abstract of 'Visible Speech,' and must refer for fuller information to Mr. Bell's own publications.

Mr. Melville Bell's System of Phonetics.

Mr. Melville Bell in his latest works[1] divides all speech-elements into three classes:—

(1) those produced by vocalised breath or voice,—vowels and voiced consonants;

(2) those produced by unvocalised breath,—whispered vowels and breath consonants;

(3) those produced by the mouth alone,—percussions.

[1] *University Lectures on Phonetics*, 1887, p. 59. *Visible Speech and Vocal Physiology*, 1889.

These speech-elements require for their production,

(1) the lungs, to supply breath;

(2) the glottis, to change breath into voice;

(3) the pharynx, to compress it;

(4) the tongue and lips, to parcel it; and

(5) the cavities of pharynx, mouth, and nose, to mould it.

The sounds produced by voice are the vowels and the voiced consonants.

The sounds produced by breath are the vowels, if whispered, and the breath consonants.

The sounds produced by the mouth alone, without either voice or breath, are the percussions, as heard in *p*, *t*, *k*, if not preceded or followed by breath.

Tones, as described by Mr. Melville Bell, are turns of the voice as it rises and falls in speaking, commonly called *cantilena*.

Glides (*Übergangslaute*) are produced by the transition from one organic position to another. Thus in *ai-ry*, there is a voice glide between the *ai* and the *r*.

If the top of the soft palate is slightly depressed and the nasal passage uncovered, all vowels become nasalised.

Vowels.

Mr. Melville Bell next gives a list of all possible vowel sounds, though he admits that several of them never occur in the languages known to us.

Taking the top of the mouth as an arch, he shows that the tongue may take an equally high position close to the front, the top, or the back of the arch. This gives us the three high vowels, one in front, as in *bee*,

an unused vowel at the back (*oo* delabialised),[1] and one between the two, called mixed, as in *church*, pronounced in American fashion.

Each of these three vowels can be pronounced in three different ways.

In pronouncing *ee*, we keep the tip of the tongue high, facing the front of the palate. If the front cavity is enlarged by gradually lowering the tongue, we get the vowel *a* as in *ale*, and lastly *e* as in *ell*. These three vowels are called High, Mid, and Low Front vowels.

Taking the High Back vowel (which is not used) as our starting-point, we can modify it by enlarging the back cavity by lowering the tongue. We then get the three High, Mid, and Low Back vowels, described as delabialised *oo*, *ō*, and *aw*.

Taking the High Mixed vowel as our starting-point, we can modify it by enlarging the mouth cavity by lowering the tongue. We then get the three High, Mid, and Low Mixed vowels, as heard in *church* (American), in *alté*[2] (German *e*), and *pénny* (Cockney huckster).

Each of the nine vowels hitherto described can be modified if, in pronouncing them, we round our lips. Here the High vowels have a narrow, the Low a broad, the Mid, an intermediate labial aperture. If we pronounce the High Front *ee* of *bee* and round the lips, we get the German *ü*. If we pronounce the Mid Front *a* of *ale*, and round the lips, we get the French

[1] To delabialise is meant for removing the action of the lips from such vowels as *oo*, *o*, and *aw*.

[2] I put the accent on the vowel, if there is any doubt as to which vowel is meant.

u. If we pronounce the Low Front *e* of *ell*, and round the lips, we get the French *eu*.

Applying the same process to the High, Mid, and Low Back vowels, we get the vowels *oo*, *o*, and *aw*. It was in fact by delabialising these vowels that the three primary Back vowels were discovered, though they are seldom used.

Thirdly, by applying the same process of rounding to the Mixed vowels, we get a blending of *oo* with *ü*, of *ō* with *u* (French), and of *aw* with *eu* (French). The first sound is heard in *look*, as pronounced in the North of Ireland; the second in the French *homme*, and the third in the initial element of the Irish diphthongal sound of *I*, in *I mind*.

We have now eighteen possible vowels. Every one of these, as Mr. Melville Bell informs us, admits of what he calls widening, or a loose and more indefinite pronunciation of the primary vowels, the organic positions remaining otherwise the same. The following list will best show the difference between primary or narrow, and secondary or wide vowels, as understood by Mr. M. Bell.

Primary (narrow).	Secondary (wide).	Primary (narrow).	Secondary (wide).
High-front: eel	ill	über (Germ.)	une (Fr.)
Mid-front: ale	air	dû (Fr.)	school (Scotch)
Low-front: end	and	peu (Fr.)	now (Cockney)
High-mixed: church (Am.)	the	look (N. Irel.)	awfúl
Mid-mixed: alté (Germ.)	sofá	homme (Fr.)	sorrów
Low-mixed: zur (Somerset)	sir	I (Irel.)	mirrór (Chicago)

Primary (narrow).	Secondary (wide).	Primary (narrow).	Secondary (wide).
High-back :			
laogh (Gaelic)	tión	pool	pull
Mid-back : up	ask	old	ore
Low-back :			
up (Scotch)	ah	yawn	yon

Consonants.

All consonants are the result of friction, compression, or interception of the breath in its passage from the lungs through the mouth.

(1) If the breath-channel is contracted between the back of the tongue and the soft palate, we get the sound of *ch* in German *nach*.

(2) If the breath-channel is contracted between the middle of the tongue and the soft palate, we get the sound of *ch* in German *ich*, or English *hue*.

(3) If the breath-channel is contracted between the tip of the tongue and the gum or the front edge of the palatal arch, we get the sound of *r*, as heard in *three* (Scotch).

(4) If the breath-channel is contracted between the edges of the approximatal lips, we get the sound made in blowing to cool.

(5) If the first of these consonantal sounds is modified by the lips, we get the sound *ch* as heard in *leuch* (laughed) in Scotch.

(6) If the second sound is modified by the elevation of the forepart of the tongue, it is changed to *sh*.

(7) If the third sound is modified by the elevation of the middle of the tongue, it is changed to *s*.

(8) If the fourth sound is modified by the retraction of the tongue towards the back, the sharp blowing

sound is changed into a hollow whistling sound, the English *wh*.

This gives us eight primitive consonants, all breath-consonants. We have only to substitute for breath vocalised breath or voice, and that number is doubled. This gives us:—

	Breath.	Voice.
Back	ch, in *nach* (Germ.).	g, in *tage* (Germ.).
Top	h, in *ich* (Germ.).	y, in *yea*.
Point	r, in *three* (Scotch).	r, before vowel.
Lip	Blowing to cool.	v, in *wie* (Germ.).
Back mixed	ch in *leuch* (Scotch).	g (labialised, Germ.).
Top mixed	sh, in *she*.	j (French), *je*.
Point mixed	s, in *see*.	z, in *zeal*.
Lip mixed	wh, in *which*.	w, in *we*.

There are still some consonants in which the breath issues, not by a central aperture, but laterally, whether on both sides or on one. These are in English:—

Breath.	Voice.
l, in *else*.	l, in *ells*.
th, in *thin*.	th, in *thine*.
f, in *four*.	v, in *voice*.

If instead of emitting breath, unvocalised or vocalised, through these channels, we shut them against the breath or against the voice, we get the consonants:—

Breath.	Voice.
k, in *key*.	g (hard), *gain*.
Sound between k and t.	Sound between g and d.
t, in *town*.	d, in *done*.
p, in *poet*.	b, in *bone*.

The English nasal consonants *ng*, a sound between *ng* and *n*, *n*, and *m*, are formed by shutting the mouth

passage and emitting breath or voice through the nose. The nasal passage is closed when the soft palate is lifted, it is opened when the soft palate descends. Nasal consonants may be vocal and non-vocal.

This gives us altogether forty-eight consonants. To these must, however, be added the *h*, as representing a mere emission of breath, without any friction, and the whisper, produced by the narrowing of the throat-passage.

This is, no doubt, a very imperfect sketch of Mr. Melville Bell's system. It is particularly so, because I could not avail myself of the ingenious alphabet which he has framed in order to give a pictorial representation to every one of his letters. Still it will give an idea both of the strong and the weak points of what he calls Visible Speech. The weak points Mr. Melville Bell is himself the first to admit. Both vowels and consonants admit in reality of so many minute variations that no system of notation can ever do justice to them. The strength of the system consists in the classification of vowels and consonants, in their definition and their localisation. Critics contend that his classification and subdivision of vowels and consonants has either been carried too far or not far enough. We saw that several of his letters were admitted by Mr. Melville Bell himself to be useless for spoken languages, as far as we know them, and it is certainly a fact that other elocutionists differ from Mr. Melville Bell in assigning to each of his categories the sounds known to us in English, French, and German. These critics may be, as Mr. Melville Bell suggests, in-

capable and prejudiced, still Mr. Sweet, Professor Sievers, Dr. Vietor, Dr. Paul Passy and others can hardly be classed as such. Indeed, on several points I feel inclined to agree with them.

For practical purposes, more particularly for writing down spoken dialects and languages not yet reduced to writing, any one of these systems will no doubt prove very useful. I have confined myself to that of Mr. Bell in its latest form (1887), as the most original and the most widely accepted system.

Image of the Ear and Movement of the Tongue.

We must not forget that in using any of these systems we have to learn not only how to pronounce, but likewise how to hear. The ear receives an impression, and the vocal organs have to make an effort to imitate that impression. Nothing is more difficult than to hear accurately what is spoken in a language which we do not understand. An American gentleman, long resident in Constantinople, writes:—

'There is only one word in all my letters which I am certain (however they may be written) of not having spelt wrong, and that is the word *bactshtasch*, which signifies a present. I have heard it so often, and my ear is so accustomed to the sound, and my tongue to the pronunciation, that I am now certain I am not wrong the hundredth part of a whisper or a lisp. There is no other word in the Turkish so well impressed on my mind, and so well remembered. Whatever else I have written, *bachshtasch!* my earliest acquaintance in the Turkish language I shall never forget.'

[1] The word intended is Bakhshish.

[2] *Constantinople and its Environs*, by an American long resident, New York, 1835, vol. ii. p. 151; quoted in Marsh, *Lectures*, second series, p. 87.

Yet even the best elocutionists are sometimes liable to strange illusions, and the sounds which they have correctly defined before uttering them, are by no means always the same, when uttered.

The Chinese word which by French scholars is generally represented as *eul*, is rendered by different authorities *öl*, *eulh*, *eull*, *r'l*, *r'll*, *urhl*, *rhl*. It is curious that the same word is sounded at Canton *i*, in Annam *ñi*, in Japan *ni*.[1]

Well do I remember how long it took before I could hear that *and* was not *ant*, that *of* was *ov*, that *tongue* was *tung*.

If one has once heard correctly, the effort of imitation is much less difficult.

Nay, even in speaking our own language, our pronunciation is constantly varying, and if a man is asked to pronounce a word a second time, so that we may hear it better, he almost invariably pronounces it differently.

If each letter is kept between the narrow limits assigned to it, much will have been gained, but we shall never get a really scientific classification of the sounds of the human voice till we can measure them, as we measure heat, light, and now electricity also.

Helmholtz has shown how vowels may be analysed and reproduced according to their analysis. It is not impossible that the phonograph may in time supply students of acoustics with the means of measuring every shade of sound produced on the revolving cylinder by the human voice. There are the impressions made by the point set to vibrate by the speaking voice. Why cannot these impressions be magnified so as to

[1] Léon de Rosny, *La Cochinchine*, p. 294.

become really Visible Speech, and to submit to actual measurement? Barlow's experiments seem to me to point the way, but it is not for me to say more on such a subject.

The actual Alphabet.

We now return to the humbler task of describing the vowels and consonants with which the student of the Science of Language has chiefly to deal. Their system is, no doubt, less perfect than the purely physiological system elaborated by Mr. Melville Bell. But we must not forget that they answer the purpose for which they were intended, inasmuch as the principal languages of the world have been able with that small array of vowels and consonants to express all they had to say. They must be looked upon as typical sounds only, each admitting of a broad margin, i. e. of a considerable dialectic variety. The only question is with how many, or with how few of such typical sounds the work of language can be carried on. No one can fail to see, for instance, that the *k* has a different place of contact, as pronounced in *king*, *care*, *car*, *coal*, *cool*, and *caw*. In a physiological alphabet, therefore, we ought properly to have six *k*'s, nay even more, if we watch the *k* as followed by different consonants, as in *ks*, *kl*, *kra*. But for our own purposes one *k* is sufficient, and if we have to mark dynamic differences in the *k*, they do not concern its pronunciation, but rather its liability to labialisation in certain languages, a peculiarity unrecognised in any physiological alphabet.

The Sanskrit short *a* is pronounced very differently even by educated natives in different parts of India,

but we should always have to write it by *a*, even if pronounced like *ŏ* or *ŭ*. Dynamically, however, Sanskrit *ă* represents three sounds, *ă*, *ĕ*, and *ŏ*, and though Sanskrit has dispensed with this threefold dialectic variety for the purpose of grammatical distinctions, as, for instance, in Greek *τέμνω*, *ἔταμον*, and *τόμος*, the scholar finds it useful to mark that latent distinction in the Sanskrit vowel *a*, though no human ear could ever detect it.

I still think that for a right appreciation of the letters used in the Aryan languages nothing can exceed the usefulness of the old Indian Prâtisâkhyas, particularly that of the Rig-veda. Even the Semitic alphabet, though of a very different character, can to a great extent be accommodated within the broad categories established by the ancient phoneticians of India.

All that I shall attempt here is to give diagrams of the position of the vocal organs required for the utterance of the principal vowels and consonants. These diagrams are very rough, and do not pretend to give more than an approximative picture. 'For didactic purposes,' as Professor Haeckel remarks,[1] 'simple schematic figures are far more useful and instructive than pictures which preserve the greatest faithfulness to nature and are carried out with the greatest exactitude.' Such minutely exact pictures may be seen, however, in Mr. Norman W. Kingsley's article, *Illustrations of the Articulation of the Tongue*, in Techmer's *Zeitschrift*, vol. iii. pp. 225–248. They are simply

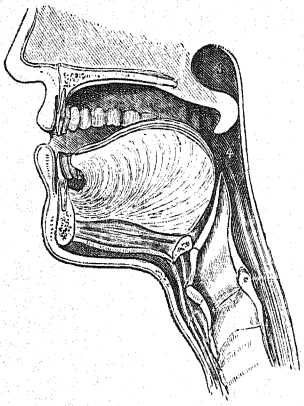
[1] Haeckel, *Ziele und Wege*, p. 37.

copies taken by a very ingenious process of the interior of the mouth while engaged in pronouncing certain vowels and consonants. But the author knows too well in how many different ways the same sound may be produced by different individuals, nay by the same individual, to wish us to accept these pictures as more than approximative. 'It is not supposable,' he writes, 'that all persons in making the same sound place the active accessory organs—the tongue, palate, &c.—in the same identical position. Variations to a greater or less extent can be observed in every one. Exactly the same resonating cavity in shape is not likely to exist in any two mouths. With the fixed portion of any buccal cavity differing somewhat in form from every other, the changeable portions, such as the tongue and palate, adapt themselves to circumstances and produce a resonating cavity of the same clang-character. The variations in the position of the articulating organs as seen in different persons in producing the same sound are then understood. So long as the integrity of the accessory organs is preserved, a resonating cavity of like clang-character can be formed.'

Vowels.

1. In pronouncing *u* we round the lips and draw down the tongue so that the cavity of the mouth assumes the shape of a bottle without a neck. Such bottles give the deepest notes, and so does the vowel *u*. According to Helmholtz its inherent tone is F.

Fig. 5.



EXAMPLES: [1]

Open syllable, long, *who*; Fr. *ou*; Germ. *du*.

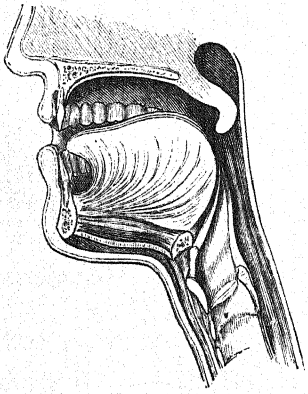
Open syllable, short *fruition*; Fr. *ouir*; Germ. *zurück*.

Closed syllable, long, *pool*; Fr. *poule*; Germ. *Stuhl*.

Closed syllable, short, *pull*; Fr. *pour*; Germ. *bunt*.

2. If the lips be opened somewhat wider, and the tongue somewhat raised, we hear the sound of *o*. Its pitch, according to Helmholtz, is B′ flat.

Fig. 6.



EXAMPLES:

Open syllable, long, *ago*; Fr. *beau*; Germ. *Ofen*.

Open syllable, short, *zoology*; Fr. *zoologie*; Germ. *Zoologie*.

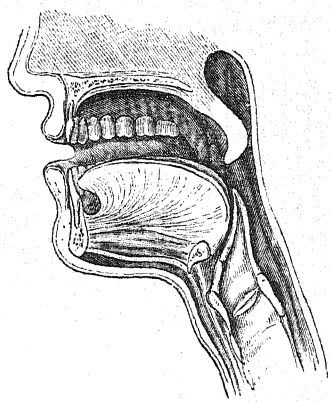
Closed syllable, long, *bone*; Fr. *cône*; Germ. *Mond*.

Closed syllable, short, *soft*; Fr. *bol*; Germ. *fort*.

[1] I give instances of short and long vowels, both in open and closed syllables (i.e. not followed or followed by consonants), because, in English

3. If the lips are less rounded, and the tongue somewhat depressed, we hear the sound of *å*.

Fig. 7.



EXAMPLES:

Open syllable, long, *Âugust* (subs.); Fr. *deest*;[1] Germ. *deest*.

Open syllable, short, *augûst* (adj.); Fr. *deest*; Germ. *deest*.

Closed syllable, long, *nought*; Fr. *deest*; Germ. *deest*.

Closed syllable, short, *what*; Fr. *deest*; Germ. *deest*.

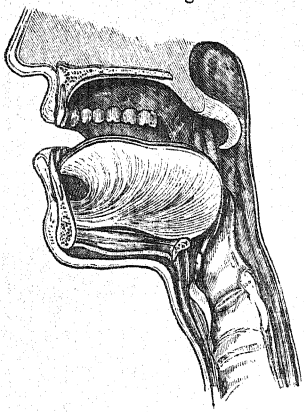
4. If the lips are wide open, and the tongue in its natural flat position, we hear the sound of *a*. Inherent pitch according to Helmholtz, B″ flat. This seems the most natural position of the mouth in singing; yet for the higher notes singers prefer the vowels *e* and *i*, and they find it difficult to pronounce *a* and *u* on the highest.[2]

particularly, hardly any vowels pair when free or stopped. On the qualitative, and not only quantitative, difference between long and short vowels, see Brücke, *l. c.* p. 24, seq. and R. von Raumer.

[1] A sound similar to this is said to exist in the dialect of Orleans and the centre of France.

[2] Brücke, p. 13.

Fig. 8.



EXAMPLES:

Open syllable, long, *mamâ*; Fr. *bas*; Germ. *da*.

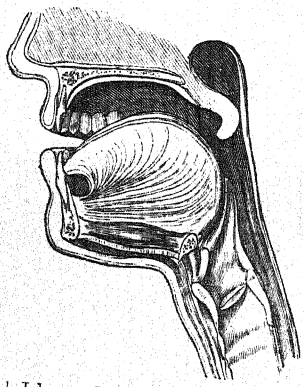
Open syllable, short, *păpâ*;[1] Fr. *răbat*; Germ. *dabei*.

Closed syllable, long, *pass*; Fr. *Basle*; Germ. *lahm*.

Closed syllable, short, *deest*; Fr. *bal*; Germ. *Lamm*.

5. If the lips are fairly open, and the back of the tongue raised towards the palate, the larynx being

Fig. 9.



EXAMPLES:

Open syllable, long, *hay*; Fr. *né*; Germ. *geh*.

Open syllable, short, *ăerial*; Fr. *légal*; Germ. *Gebet*.

Closed syllable, long, *lake*; Germ. *geht*.

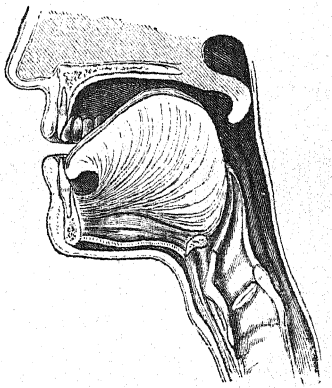
Closed syllable, short, *debt*; Fr. *dette*; Germ. *Fett*.

[1] I have given *păpâ* as an instance of the short pure *a* in English, but even in this word children soon learn to pronounce *pupaw* instead of *păpâ*. The fact is that there is no short pure *a* in English, either in open or in closed syllables, and even in long syllables the pronunciation of the *â* is seldom quite pure. According to the peculiarities of local

raised at the same time, we hear the sound of *e*. The long *é* is seldom quite pure in English, and particularly in singing we clearly hear a furtive *ĭ* at the end of this vowel, *day* sounding like *dêĭ*. The long *o* in the same manner is frequently followed by a short *ŭ*, *no* sounding like *nô-ŭ*. The buccal tube resembles a bottle with a narrow neck. The natural pitch of *e* is B‴ flat or F′.

6. If we raise the tongue higher still, and narrow the lips, we hear the sound of *i*. The buccal tube represents a bottle with a very narrow neck of no more than six centimètres from palate to lips. Such a bottle would answer to C⁗. The natural pitch of *i* is said to be D⁗.

Fig. 10.



EXAMPLES:

Open syllable, long, *he*; Fr. *vie*; Germ. *sie*.

Open syllable, short, *pithy*; Fr. *vitesse*; Germ. *Sibirien*.

Closed syllable, long, *been*; Fr. *pire*; Germ. *mir*.

Closed syllable, short, *been*, pronounced *bin*; Fr. *mirroir*; Germ. *mit*.

7. There is, besides, the most troublesome of all vowels, the neutral vowel, sometimes called *Urvocal*,

dialects we sometimes hear *farm* pronounced like *fawrm*, sometimes like *fairm*. The true pronunciation of the Italian *ămātă* must be learnt in Italy.

better *Unvocal*. Professor Willis defines it as the natural vowel of the reed, Mr. Ellis as the voice in its least modified form. Some people hear it everywhere, others imagine they can distinguish various shades of it. If I could trust my own ear, I should say that this vowel was always pronounced with non-sonant or whispered breath; that it is in fact a whispered, not a voiced, vowel. We know it best in short closed syllables, such as *but, dust*, &c. It is supposed to be long in *absurd*. Sir John Herschel hears but one and the same sound in *spurt, assert, bird, virtue, dove, oven, double, blood*. Sheridan and Smart imagine they can distinguish between the vowels heard in *bird* and *work*, in *whirl'd* and *world*. There is no doubt that in English unaccented syllables have a strong tendency towards it, e. g. *ăgainst, ideă, villăge, suppĕr, fullў, muttŏn*. *Town* sinks to *tun* or *tn* in *Paddingtŏn, ford* to *fŭrd* or *frd* in *Oxfŏrd*;[1] and though some of these pronunciations may still be considered as vulgar, they are nevertheless real.

These are the principal vowels, and there are few languages in which they do not occur. But we have only to look to English, French, and German in order to perceive that there are many varieties of vocal sound besides these. There is the French *u*, the German *ü*, which lies between *i* and *u*;[2] as in French, *lu, pur, sur*; in German, *früh, für, Süd, Sünde*. Professor Helmholtz has fixed the natural pitch of *ü* as G‴.

[1] Ellis, § 29, *n, r, l*, and *m* are vocalic.

[2] 'While the tongue gets ready to pronounce *i*, the lips assume the position required for *u*.'—Du Bois-Reymond, *Kadmus*, p. 150.

There is the French *eu*, the German *ö*, which lies between *e* and *o*, as in French *peu*, *heureux*, *peur*, *neuf*; German *König*, *empört*, or short in *Böcke*.[1] Professor Helmholtz has fixed the natural pitch of *ö* as c‴ sharp.

There is *ä* as heard in *bear*, in German *Väter*, in French *prêtre*, in Italian *erba*. Its natural pitch is g″ or d‴.

Several vowels as pronounced in English in unaccented syllables are what Brücke calls imperfect vowels. They have been ranged under their corresponding typical sounds, but they have a phonetic character of their own.

Thus there is the peculiar short *a* in closed syllables in English, such as *hat*, *happy*, *man*. It may be heard lengthened in the affected pronunciation of *half*.

There is the peculiar short *i*, as heard in the English *happy*, *reality*, *hit*, *knit*.

There is the short *e* in closed syllables, such as heard in English *debt*, *bed*, *men*, which if lengthened comes very near to the German *ä* in *Väter*, and the French *é* in *prêtre*, or *è* in *père*, not quite the English *there*.

Lastly, there are the diphthongs, as heard in English *by*, *boy*, *bow*, which arise when, instead of pronouncing one vowel immediately after another with two efforts of the voice, we produce a sound *during* the change

[1] The German *ö*, if shortened, seems to dwindle down to the neutral vowel, e.g. *Öfen*, ovens, but *öffnen*, to open. See Du Bois-Reymond, *Kadmus*, p. 173. With a little practice, however, we can perceive a difference between the vowel *u* in English *hut*, and the vowel *ö* in German *Hörner*; and it is easy to distinguish between the German *Götter* and the English *gutter*.

from one position to the other that would be required for each vowel. If we change the *a* into the *i* position and pronounce a vowel, we hear *ai* as in *aisle*. A singer who has to sing *I* on a long note will often end by singing the Italian *i*. If we change the *a* into the *u* position and pronounce a vowel, we hear *au*, as in *how*. Here, too, we find many varieties, such as ăi, âi, ei, varying in different languages, nay in the dialects of one and the same language.

This may seem a long and tedious list, though it is, in fact, but a very rough sketch, and I must refer to the works of Mr. Melville Bell, Ellis, and others, for many minute details in the chromatic scale of the vowels. Though the tube of the mouth, as modified by the tongue and the lips, is the principal determinant in the production of vowels, yet there are other agencies at work, the *velum pendulum*, the posterior wall of the *pharynx*, the greater or less elevation of the *larynx*, all contributing at times to modify the cavity of the throat. It is said that in pronouncing the high vowels, the bones of the skull participate in the vibration,[1] and it has been proved by irrefragable evidence that the *velum pendulum* is of very essential importance in the pronunciation of all vowels. Thus Professor Czermak,[2] by introducing a probe through the nose into the cavity of the pharynx, felt distinctly that the position of the *velum* was changed with each vowel; that it was lowest for *a*, and rose successively with *e*, *o*, *u*, *i*, reaching its highest point with *i*.

[1] Brücke, p. 16.

[2] *Sitzungsberichte der k. k. Akademie zu Wien* (mathemat. naturwissenschaftliche Classe), xxiv. p. 5. *Physiologische Vorträge*, p. 114.

He likewise proved that the cavity of the nose was more or less firmly closed during the pronunciation of certain vowels. By introducing water into the nose he found that while he pronounced *i*, *u*, *o*, the water would remain in the nose, but that it would pass into the fauces when he came to *e*, and still more when he uttered *a*.[1] These two vowels, *a* and *e*, were the only vowels which Leblanc,[2] a young man whose larynx was completely closed, failed to pronounce.

Nasal Vowels.

If, instead of emitting the vowel sound freely through the mouth, we allow the *velum pendulum* to drop and the air to vibrate through the cavities which connect the nose with the pharynx, we hear the nasal vowels[3] so common in French, as *un*, *on*, *in*, *an*. It is not necessary that the air should actually pass through the nose; on the contrary, we may shut the nose, and thus increase the nasal twang. The only requisite is the removal of the velum, which, in ordinary vowels, covers the *choanæ* more or less completely.[4]

Consonants.

There is no reason why languages should not have been entirely formed of vowels. There are words consisting of vowels only, such as Latin *eo*, I go; *ea*,

[1] Funke, *l. c.* p. 676.

[2] Bindseil, *Abhandlungen zur allgemeinen vergleichenden Sprachlehre*, 1838, p. 212.

[3] Brücke, p. 27.

[4] The different degrees of this closure were tested by the experiment of Prof. Czermak with a metal looking-glass applied to the nostrils during the pronunciation of pure and nasal vowels. *Sitzungsberichte der Wiener Akademie*, xxviii. p. 575, xxix. p. 174.

she; *eoa*, eastern; the Greek êióeis (ἠϊόεις, with high banks), but for its final *s*; the Hawaian *hooiaioai*, to testify, but for its initial breathing. Yet these very words show how unpleasant the effect of such a language would have been. Something else was wanted to supply the bones of language, namely, the consonants. Consonants are called in Sanskrit vyañgana, which means 'rendering distinct or manifest,' while the vowels are called svara, sounds, from the same root which yielded *susurrus* in Latin.

As scholars are always fond of establishing general theories, however scanty the evidence at their disposal, we need not wonder that languages like the Hawaian, in which the vowels predominate to a very considerable extent, should on that very ground have been represented as primitive languages. It was readily supposed that the general progress of language was from the slightly articulated to the strongly articulated; and that the fewer the consonants, the older the language. Yet we have only to compare the Hawaian with other Polynesian languages in order to see how erroneous this view would be. In these cognate languages the consonantal skeleton exists, and it is quite clear that these consonants were dropped in Hawaian. Consonants are much more apt to drop than to spring up. Dean Ramsay in his *Reminiscences* records a conversation between two Scotchmen, a shopman and a customer, relating to a plaid hanging at the shop-door. It consists entirely of vowels.

> Customer (inquiring the material): Oo? (wool).
> Shopman: Ay, oo (yes, wool).

Customer: A' oo ? (all wool).
Shopman: Ay, a' oo (yes, all wool).
Customer: A' ae oo ? (all same wool).
Shopman: Ay, a' ae oo (yes, all same wool).

Here we know that the consonants existed, but were dropt. Prof. Buschmann expresses the same opinion with regard to the Polynesian languages: 'Mes recherches m'ont conduit à la conviction, que cet état de pauvreté phonique polynésienne n'est pas tant l'état naturel d'une langue prise à sa naissance, qu'une détérioration du type vigoureux des langues malaies occidentales, amenée par un peuple qui a peu de disposition pour varier les sons.'[1] The very name of *Havai*, or more correctly *Hawai'i*, confirms this view. It is pronounced

in the Samoan dialect,	Savai'i
Tahitian,	Havai'i
Rarotongan,	Avaiki
Nukuhivan,	Havaiki
New Zealand,	Hawaiki

from which the original form may be inferred to have been *Savaiki*.[2]

All consonants fall under the category of noises, and there are certain noises that could hardly be avoided even in a language which was meant to consist of vowels only. If we watch any musical instruments, we can easily perceive that their sounds are always preceded by certain noises, arising from the first impulses imparted to the air before it can produce really musical sensations. We hear the puffing

[1] Buschmann, *Iles Marq.* p. 36, 59. Pott, *Etymologische Forschungen*, ii. 46.
[2] Hale, *l. c.* p. 120.

and panting of the siren, the scratching of the violin, the hammering of the pianoforte, the spitting of the flute. The same in speaking. If we send out our breath, intending it to be vocalised, we often hear the rushing out, the initial impulse produced by the inner air as it reaches the outer.

Breathings.

If we breathe freely, the glottis is wide open,[1] and the breath emitted can be distinctly heard. Mere breathing, however, is not yet our *h*, or the *spiritus asper*. An intention is required to change mere breathing into *h*; the *velum pendulum* has to assume its proper position, the larynx is stiffened, the glottis narrowed[2] in order to produce an accumulation and intensification of the breath; this breath is then jerked out by the action of the abdominal muscles. This is the *h* in its purest state, the Greek *spiritus asper*, free, as yet, from any degree of hoarseness that may be imparted to it by subsequent barriers. These barriers are formed by narrowing different portions of the larynx or the throat, and they have given rise, particularly in the Semitic languages and in some German dialects, to a great variety of guttural breathings which, even with the help of the laryngoscope, it

[1] Czermak, *Physiologische Untersuchungen mit Garcia's Kehlkopfspiegel, Sitzungsberichte der k. k. Akademie der Wissenschaften*, vol. xxxix. 1858, p. 563.

[2] Czermak, *Über den Spiritus asper und lenis.* Sonder-Abdruck aus dem LII. Bande der *Sitzungsberichte der kais. Akad. der Wissenschaften* (December 7, 1865). Though Professor Czermak is right in saying that the glottis is narrowed, if compared with its shape in men breathing, yet it is equally correct to say that the glottis for *h* is wide open as compared with its aperture in the pronunciation of other letters.

is difficult accurately to analyse or to describe. With regard to dead languages, as for instance the ancient Greek, it is a hopeless task to attempt to determine the exact formation of their true guttural breathings. But, without wishing to commit myself to any opinion as to the exact degree of harshness imparted by the ancient Greeks to their *πνεῦμα δασύ*, it will be convenient to retain the name of *spiritus asper* for the least modified form of the guttural breathing.

Now it is clearly possible, while the breath is thus passing through the more or less compressed throat, to bring the vocal chords near to each other, so that the breath in passing should produce a kind of friction or imperfect vibration. As the (ʻ), the *spiritus asper*, described before, is the type of all the modifications of non-sonant breath, this letter would be the type of all the modifications of sonant breath, or of exhaled voice. The Sanskrit h must come very near to it, for it is described as a breath or wind, like s, but at the same time as sonant. As I wish to retain for the non-sonant breath, in its purest form, the name of *spiritus asper*, I should wish to assign to the typical form of sonant breath the name of *spiritus lenis*, without, however, committing myself to any opinion as to the exact pronunciation of *πνεῦμα ψιλόν* in different parts of Greece, or at different periods in the history of the Greek languages.[1]

[1] Professor Czermak, in trying to define the nature of the *πνεῦμα ψιλόν* in Greek, explains it as 'the explosive sound at the beginning of a vowel where the tone breaks forth, having for its only, and often hardly perceptible, extraneous admixture, the peculiar acoustic phenomenon of the first explosive opening of the glottis, appearing otherwise in its full strength and purity.' Professor Czermak, in fact, seems

We often hear the *spiritus lenis*, like a slight bubble, if we listen to the pronunciation of any ini-

to understand by πνεῦμα ψιλόν the *coup de la glotte*, the sound produced by the explosive contact of the two sides of the glottis. If that had been the Greek πνεῦμα ψιλόν, the name would not have been chosen very happily, for the *coup de la glotte* is not the breath itself, the πνεῦμα, but the sound produced by a check imposed upon the sonant breath. The adjective ψιλόν applied to πνεῦμα does by no means prove, as Professor Czermak imagines, that the πνεῦμα ψιλόν must have been formed, like the ἄφωνα ψιλά, by an explosive opening of a complete contact. To a Greek such an idea had never occurred, and would certainly not have been conveyed by the adjective ψιλόν. The adjective ψιλόν is no doubt opposed to δασύ, but, according to the best authorities, the ἄφωνα δασέα were themselves pronounced originally by an explosive opening of a previous complete contact, φ being originally *ph* and not *f*. The fact is that the Greek classification of letters, and, in consequence, their terminology, were of the vaguest kind. They divided the ἄφωνα or mutes into δασέα, i. e. rough letters, and into ψιλά, i. e. letters that were without that roughness. The μέσα, or mediæ, were supposed to stand between the two, but, if pressed on the subject, the Greeks would most likely have admitted that the μέσα, too, were free from the roughness of the δασέα, and, in that sense, ψιλά. When they gave to πνεῦμα or breath, too, the name of δασύ, all they meant to indicate by it was the roughness of the breathing, and this the Romans rendered very properly by *spiritus asper*. In πνεῦμα ψιλόν, therefore, we have really no more than a negative definition of another breath which is free from roughness, and this the Romans understood so well that they did not translate πνεῦμα ψιλόν by *spiritus tenuis*, but by *spiritus lenis*. The adjective ψιλόν is likewise used in a merely negative sense in ἐ ψιλόν and ὐ ψιλόν. The natural meaning, therefore, of this term would seem to be a breath which is not rough, and in this sense I apply it to the sonant breath as just described. If the *spiritus lenis* in Greek had been what Professor Czermak asserts it was, it is strange that it should not have been ranged among the ἄφωνα ψιλά. But these are questions which, at this distance of time, it is impossible to answer positively. What is of importance to us is this, that it is possible to define the following four letters, the non-sonant glottal breath, the sonant glottal breath, the glottal non-sonant check, and the glottal sonant check. But though we can define these four letters, the three last are apt to run into each other in actual use. Nor is this to be wondered at, considering that in the glottal series the organs which check the breath are the same as those which impart to it its sonant nature. The change of simple breath (') into simple voice (') implied a check of the forth-rushing breath, which, initially, might

tial vowel, as in *old, art, ache, ear*, or if we pronounce 'my hand,' as it is pronounced by vulgar people, 'my 'and.' According to some physiologists,[1] and according to nearly all grammarians, this initial noise can be so far subdued as to become evanescent, and we all imagine that we can pronounce an initial vowel quite pure.[2] Yet I believe the Greeks were right in admitting the *spiritus lenis* as inherent in all initial vowels that have not the *spiritus asper*; and the laryngoscope clearly shows in all initial vowels a sustained narrowing of the vocal chords, quite distinct from the narrowing and sudden opening that takes place in the pronunciation of the *h*.

There is another very important distinction between spiritus asper and lenis. It is impossible to sing the spiritus asper, that is to say, to make the breath which produces it, sonant. If we try to sing *ha*, the voice does not come out till the *h* is over. We might as well try to whistle and to sing at the same

easily be mistaken for the check that constitutes the explosive tenuis; nor would it be easy, in spite of the most hair-splitting definitions, to distinguish the sound of the glottal explosive media from that of the glottal sonant breath. Brücke doubts whether the glottal sonant breath can be ranged as a distinct letter. 'Sonant consonants,' he says (p. 85) 'spring from non-sonant consonants simply by means of narrowing the glottis till it produces a sound; and if this is done with the *h*, the result must be the pure tone of the voice without any additional rustle.' In strict logic this is true, but in actual language we neither get a perfectly pure (') nor a perfectly pure (') and the slightest trace of hoarseness would give to the (') and to the (') their peculiar consonantal body.

[1] Brücke, p. 9.

[2] Brücke, p. 85. 'If in pronouncing the *spiritus asper* the glottis be narrowed, we hear the pure tone of the voice without any additional noise.' The noise, however, is quite perceptible, particularly in the *vox clandestina*.

time.[1] The reason of this is clear. If the breath that is to produce *h* is to become a tone, it must be checked by the vocal chords, but the very nature of *h* consists in the noise of the breath rushing forth *un*checked from the lungs to the outer air. The spiritus lenis, on the contrary, can be sounded, because, in pronouncing it, the breath is checked near the vocal chords, and changed to voice.

The distinction which, with regard to the first breathing or spiritus, is commonly called *asper* and *lenis*, is the same which, in other letters, is known by the names of *hard* and *soft*, *surd* and *sonant*, *tenuis* and *media*.[2] The peculiar character meant to be described by these terms, and the manner in which it is produced are the same throughout. The authors of the Prâtisâkhyas knew what has been confirmed by the laryngoscope, that, in pronouncing what are called *tenues*, hard or surd letters, the glottis is open, while, in pronouncing the *mediæ*, soft or sonant letters, the glottis is closed. In the first class of letters, the vocal chords are simply neutral; in the second, they are so close that, though not set to vibrate periodically, they produce a hum, or what has been called a fricative noise (Reibungsgeräusch). Anticipating the

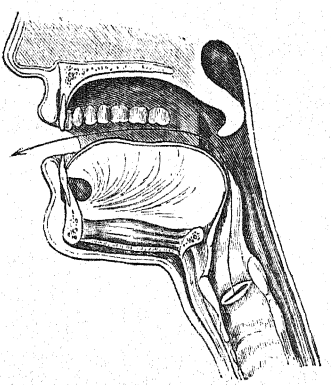
[1] See R. von Raumer, *Gesammelte Schriften*, p. 371, note. Johannes Müller says, 'The only continua which is quite mute and cannot be accompanied by the tone or the humming of the voice, is the *h*, the aspirate. If one attempts to pronounce the *h* loud, with the tone of the chordæ vocales, the humming of the voice is not synchronous with the *h*, but follows it, and the aspiration vanishes as soon as the air is changed into tones by the chordæ vocales.'

[2] Czermak, *Physiologische Vorträge*, p. 120: 'Die Reibungslaute zerfallen genau so wie die Verschlusslaute in *weiche* oder *tönende*, bei denen das Stimmritzengeräusch oder der laute Stimmton mitlautet—und in *harte* oder *tonlose*, bei denen der Kehlkopf absolut still ist.'

distinction between *k*, *t*, *p*, and *g*, *d*, *b*, I may quote here the description given by Professor Helmholtz of the general causes which produce their distinction.

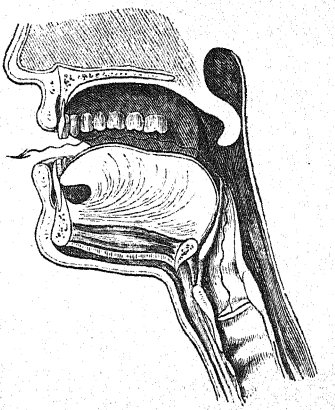
'The series of the mediæ, *b*, *d*, *g*,' he says, 'differs from that of the tenues, *p*, *t*, *k*, by this, that for the former the glottis is, at the time of consonantal opening, sufficiently narrowed to enable it to sound, or at

Fig. 11.



—(h); e.g. *hand*.

Fig. 12.



'—; e.g. *and*.

least to produce the noise of the *vox clandestina*, or whisper, while it is wide open with the tenues,[1] and therefore unable to sound.'

'Mediæ are therefore accompanied by the tone of the voice, and this may even, when they begin a syllable, set in a moment before, and when they end a syllable, continue a moment after the opening of the mouth, because some air may be driven into the

[1] See Lepsius, *Die Arabischen Sprachlaute*, p. 108, line 1.

closed cavity of the mouth and support the sound of the vocal chords in the larynx.'

'Because of the narrowed glottis, the rush of the air is more moderate, the noise of the air less sharp than with the tenues, which are pronounced with the glottis wide open, so that a great mass of air may rush forth at once from the chest.'[1]

We now return to an examination of the various modifications of the breath, in their double character of *hard* and *soft*, or *surd* and *sonant*. The simple breathing in its double character of *surd* and *sonant*, can be modified in eight different ways by interposing certain barriers or gates formed by the tongue, the soft and hard palate, the teeth, and the lips.

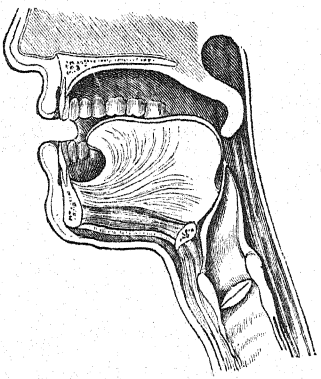
If, instead of allowing the breath to escape freely from the lungs to the lips, we hem it in by a barrier formed by lifting the tongue against the uvula, we get the sound of *ch*, as heard in the German *ach* or the Scotch *loch*.[2] If, on the contrary, we slightly check the breath as it reaches that barrier, we get the sound which is heard when the *g* in the German word *Tage* is not pronounced as a media, but as a semi-vowel, *Tage*.

[1] This distinction is very lucidly described by R. von Raumer, *Gesammelte Schriften*, p. 444. He calls the hard letters *flatæ*, blown, the soft letters *halatæ*, exhaled. He observes that exhaled letters, though always sonant in English, are not so in other languages, and therefore divides the exhaled consonants, physiologically, into two classes, sonant and non-sonant. See also *Investigations into the Laws of English Orthography and Pronunciation*, by Prof. R. L. Tafel. New York, 1862.

[2] The same sound occurs in some of the Dayak dialects of Borneo. See *Surat Peminyuh Daya Sarawak*, Reading Book for Land and Hill Dayaks, in the Sentah dialect. Singapore, 1862. Printed at the Mission Press.

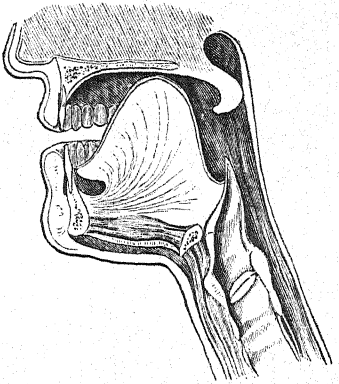
A second barrier is formed by bringing the tongue in a more contracted state towards the point where the hard palate begins, a little beyond the point where the *k* is formed. Letting the breath pass this isthmus, we produce the sound *ch* as heard in the German *China* or *ich*, a sound very difficult to an

Fig. 13.



'h (ch); e.g. *Loch*.
'h (g); e.g. *Tage* (German).

Fig. 14.



ẏ (ch); e.g. *ich* (German).
ẏ (y); e.g. *yea*.

Englishman, though approaching to the initial sound of words like *hume*, *huge*.[1] If we soften or voice the breath as it reaches this barrier, we arrive at the familiar sound of *y* in year.[2]

A third barrier, produced by advancing the tongue towards the teeth, modifies the breath into *s*, the voice

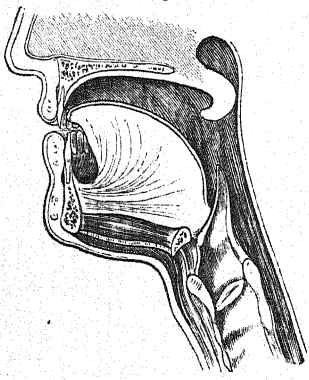
[1] Ellis, *English Phonetics*, § 47.

[2] There is no evidence whatever that the Sanskrit palatal flatus श (*ś*) was ever pronounced like *ch* in German *China* and *ich*. Most likely it was the assibilated sound which can be produced if, while keeping the organs in the position for German *ch*, we narrow the passage and strengthen the breath. This, however, is merely an hypothesis.

into *z*, the former completely surd, the latter sonant; for instance, *sin* or *rice*; and *seal* or *rise*.

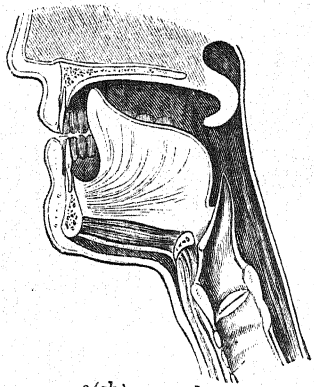
A fourth barrier is formed by drawing the tongue back and giving it a more or less concave (retroussé) shape, so that we can distinctly see its lower surface brought in position towards the back of the upper teeth or the palate. By pressing the breath through

Fig. 15.



s; e. g. *the rise, rice, sin.*
z; e. g. *to rise, zeal.*

Fig. 16.



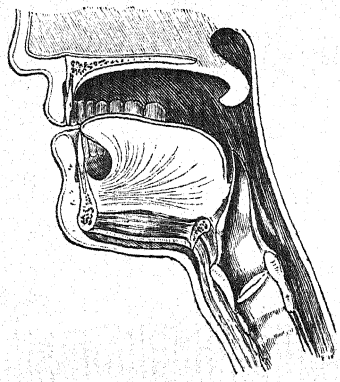
s (sh); e. g. *sharp.*
z; e. g. *azure.*

this trough, we get the letter *sh* as heard in *sharp*, and *s* as heard in *pleasure*, or *j* in the French *jamais*, the former mute, the latter sonant. The pronunciation of the Sanskrit lingual sh requires a very elaborate position of the tongue, so that its lower surface should really strike the roof of the palate. But a much more simple and natural position, as described above, will produce nearly the same effect.

A fifth barrier is produced by bringing the tip of the tongue almost point-blank against the back of

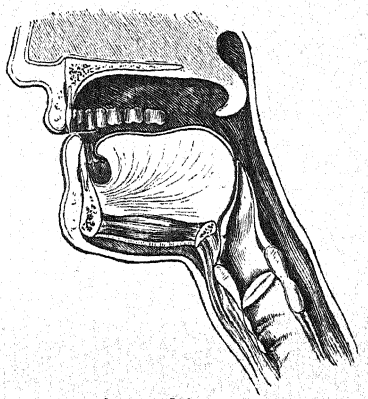
the upper teeth, or, according to others, by placing it against the edge of the upper teeth, or even between the edges of the upper and lower teeth. If, then, we emit the breath, we form the English *th*, if we emit the voice, the English *dh*; the former mute, as in *breath*, the latter intonable, as in *to breathe*, and both very difficult for a German to pronounce.

Fig. 17.



th (þ); e.g. *breath*.
dh (ð); e.g. *to breathe*.

Fig. 18.



f; e.g. *life*.
v; e.g. *to live*.

A sixth barrier is formed by bringing the lower lip against the upper teeth. This modifies the breath to *f*, the voice to *v*, as heard in *life* and *to live*, *half* and *to halve*.

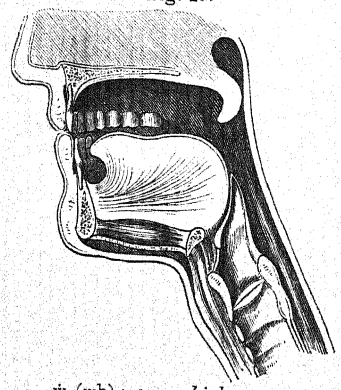
A seventh barrier is possible by bringing the two lips together. The sound there produced by the breath would be the sound which we make in blowing out a candle; it is not a favourite sound in civilised languages. If voiced, however, the sound

is very common; it is the *w* in German as heard in *Quelle*, i. e. *Kwelle*;[1] also sometimes in the German *Wind*, &c.

An eighth barrier is formed by slightly contracting and rounding the lips, instead of bringing them together flat against each other. Here the breath assumes the sound of *wh* (originally *hw*), in *wheel*, *which*; whereas the voice is the common English double *u*, as heard in *weal*.[2]

We have thus examined eight modifications of the breath and voice, beginning with *spiritus asper* and *lenis*, and ending with the labial breathing of *wh* and *w*. They are all emitted either eruptively or prohibitively, and determined by certain narrowings of the mouth. Considering the great pliability of the muscles of the tongue and the mouth, we can easily imagine other possible narrowings; but with the exception of some peculiar letters of the Semitic and African languages, we shall find these eight sufficient for our own immediate purposes.

Fig. 19.



ẇ (wh); e.g. *which*.
w; e.g. *we*.

[1] Brücke, *l. c.* p. 34.

[2] As my definition of the *wh* as a whispered counterpart of *w*, has been declared entirely false by an American critic, Mr. Whitney, and as I cannot pretend to speak with authority on the correct pronunciation of English, to say nothing of American, I quote my authorities. Mr.

The peculiar guttural sounds of the Arabs, which have given rise to so much discussion, have at last been scientifically defined by Professor Czermak. After hearing these letters pronounced by an Arab, he tried to imitate them, and by applying the laryngoscope to himself, he was able to watch the exact formation of the Hha and Ain, which constitute a separate class of guttural breathings in the Semitic languages. This is his account. If the glottis is narrowed and the vocal chords brought near together, not however in a straight parallel position, but distinctly notched in the middle, while, at the same time, the epiglottis is pressed down, then the stream of breath in passing assumes the character of the Arabic Hha, ح, as different from *h*, the spiritus asper, the Arabic ه. If this Hha is made sonant, it becomes Ain. Starting from the configuration as described for Hha, all that takes place in order to change it into Ain is that the rims of the apertures left open for Hha are brought close together, so that the stream of air striking against them causes a vibration in the *fissura laryngea*, and not, as for other sonant letters, in the real glottis. These ocular observations of Czermak,[1]

Ellis, in his *Universal Writing*, p. 6, says: 'Also distinguish *weal*, *wheel*, *veal*, *feel*, where *wh* represents the whisper of *w*. Some orthoepists and most foreigners confuse *wh* with *hu*.' Mr. Bell, in his *Principles of Speech*, p. 52, says, 'When the aperture of the lips is slightly enlarged by the separation of their anterior edges, and the breath passes between the inner edges of the lips, the effect is that of the English *wh*, *w*; the former being the voiceless, the latter the vocal form of the same articulation.'

[1] *Sitzungsberichte der mathematisch-naturwissenschaftlichen Classe der kaiserlichen Akademie der Wissenschaften*, vol. xxix. p. 576, seq. Professor Lepsius, *Die Arabischen Sprachlaute*, has but partially

coincide with the phonetic descriptions given by Arab grammarians, and particularly with Wallin's account. If the vibration in the fissura laryngea takes place less regularly, the sound assumes the character of a trilled *r*, the deep guttural *r* of the Low Saxons. The Arabic خ and غ I must continue to consider as near equivalents of the *ch* in *loch* and *'h* in German *tage*, though the pronunciation of the غ approaches sometimes to a trill, like the *r grasseyé*.

Trills.

We have to add to this class of letters two which are commonly called *trills*, the *r* and the *l*. They can be pronounced both as sonant and surd, but they differ from the other modifications by a vibration of certain portions of the mouth. Many people are deficient in their pronunciation of the different *r*'s, which are well described by Mr. Ellis.[1] 'In the trills,' he writes, the breath is emitted with sufficient force to cause a vibration, not merely of some membrane, but of some much more extensive soft part, as the uvula, tongue, or lips. In the Arabic *grh* (grhain), which is the same as the Northumberland *burr* (burgrh, Hágrhiut for Harriet), and the French Provençal *r* grasseyé (as, Paris c'est la France, Paghri c'est la Fgrhance), the uvula lies along the back part of the tongue, pointing to the teeth, and is very distinctly vibrated. If the tongue is more raised and the vibration indis-

adopted the views of Brücke and Czermak on what they call the *Gutturales Veræ* in Arabic. See also a curious controversy between Professor Brücke and Professor Lepsius, in the 12th volume of the *Zeitschrift für vergleichende Sprachforschung*.

[1] *Universal Writing and Printing*, by A. J. Ellis, B.A., 1856, p. 5.

tinct or very slight, the result is the English *r* in *more*, *poor*, while a still greater elevation of the tongue produces the *r* as heard after palatal vowels, as *hear*, *mere*, *fire*. These trills are so vocal that they form distinct syllables, as *surf*, *serf*, *fur*, *fir*, *virtue*, *honour*, and are with difficulty separable from the vowels. Hence, when a guttural vowel precedes, the effect of the *r* is scarcely audible. Thus *laud* and *lord*, *father* and *farther*, are scarcely distinguishable.'

Professor Helmholtz describes *r* and *l* as follows:—'In pronouncing *r* the stream of air is periodically entirely interrupted by the trembling of the soft palate or of the tip of the tongue, and we then get an intermittent noise, the peculiar jarring quality of which is produced by these very intermissions. In pronouncing *l* the moving soft lateral edges of the tongue produce, not entire interruptions, but oscillations in the force of air.'[1]

If the lips are trilled the result is *brh*, a sound which children are fond of making, but which, like the corresponding spiritus asper, is of little importance in speaking. If the tongue is placed against the teeth, and its two lateral edges, or even one only, are made to vibrate, we hear the sound of *l*, which can easily be voiced, as well as the *r*.

We have thus exhausted one class of letters which all agree in this, that they can be pronounced by themselves, and that their pronunciation can be continued. In Greek, they are all included under the name of *Hemiphona*, or semi-vowels, while Sanskrit grammarians mention as their specific quality that,

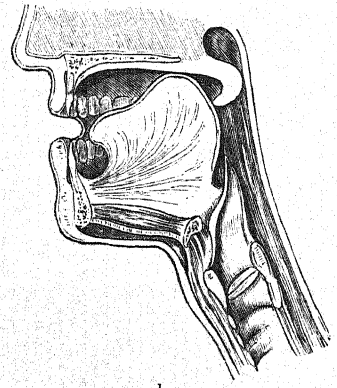
[1] *l. c.* p. 116.

in pronouncing them, the two organs, the active and passive, which are necessary for the production of all consonantal noises, are not allowed to touch each other, but only to approach.

Checks or Mutes.

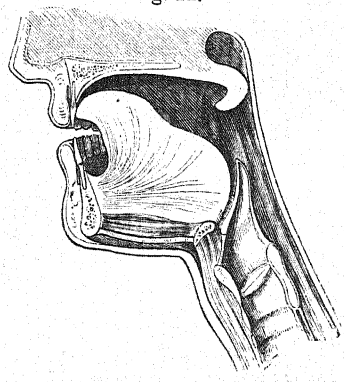
We now come to the third and last class of letters, which are distinguished from all the rest by this, that for a time they stop the emission of breath altogether. They are called by the Greeks *aphōna*, mutes, because

Fig. 20.



k

Fig. 21.



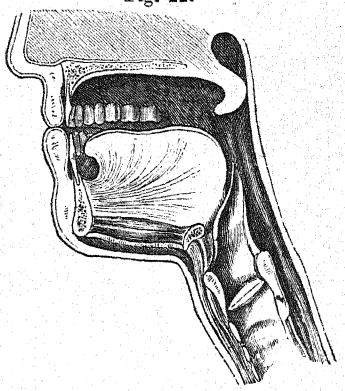
t

they are without any voice. They are formed, as the Sanskrit grammarians say, by complete contact of the active and passive organs. They will require very little explanation. If we bring the root of the tongue against the soft palate, we hear the consonantal noise of *k*. If we bring the tongue against the teeth, we

[1] In Pâ*n*ini, i. 1, 9, y, r, l, v, are said to be pronounced with ishatspr*i*sht*a*m, slight touch; *s*, sh, s, h, with vivr*i*tam, opening, or ishadvivr*i*tam, slight opening, or aspr*i*sht*a*m, no contact.

hear the consonantal noise of *t*. If we bring the lower against the upper lip, we hear the consonantal noise of *p*. The real difference between those three articulations consists in this, that in *p*, two flat surfaces are struck against each other; in *t*, a sharp against a flat surface; in *k* a round against a hollow surface. These three principal contacts can be modified almost indefinitely, in some cases without perceptibly altering the articulation. If we pronounce *ku*, *ka*, *ki*, the point of contact between tongue and palate advances considerably without much influence on the character of the initial consonant. The same applies to the *t* contact.[1] Here the essential point is that the tongue should strike against the wall formed by the teeth. But this contact may be effected—

Fig. 22.



p

1. By flattening the tongue and bringing its edge against the alveolar part of the palate.

2. By making the tongue convex, and bringing the lower surface against the dome of the palate (these are the lingual or cacuminal letters in Sanskrit).[2]

[1] Brücke, p. 38.

[2] Formerly called *cerebral*, a mistranslation of mûrddhanya, thoughtlessly repeated by many Sanskrit scholars and retained by others, on the strange ground that the mistake is too absurd to mislead anybody. Brücke, p. 37.

3. By making the tongue convex, and bringing the upper surface against the palate, the tip against the lower teeth (dorsal *t* in Bohemian).

4. By slightly opening the teeth and stopping the aperture by the rounded tongue, or by bringing the tongue against the teeth.

Most languages have only one *t*, the first or the fourth, some have two; but we seldom find more than two sets of dentals distinguished phonetically in one and the same dialect.

If we place the tongue in a position intermediate between the guttural and dental contact, we can produce various consonantal sounds which go by the general name of *palatal*. The click that can be produced by jerking the tongue, from the position in which *ich* and *yea* are formed, against the palate, shows the possibility of a definite and simple consonantal contact analogous to the two palatal breathings. Some physiologists, however, and among them Brücke,[1] maintain that *ch* in English and Italian consists of two letters, *t* followed by *sh*, and should not be classed as a simple letter. In Sanskrit, however, the palatal check, the *k*, must be treated as a single letter, for it does not lengthen a preceding short vowel, as all really double consonants would do.

What the exact pronunciation of this palatal letter may have been at different periods of the history of Sanskrit, is impossible to say. It is curious, however, to observe that, while the simple *k* and *g* do not lengthen a preceding vowel, the aspirated *kh* does so,

[1] Brücke, p. 63, seq. He would, however, distinguish these concrete consonants from groups of consonants, such as *ξ*, *ψ*.

and is in consequence written *kkh*. The *k*, as sometimes heard in English, in *kind*, *card*, *cube*, *cow*, sounding almost like *kyind*, *cyard*, *cyube*, *cyow*, may give us an idea of the transition of *k* into *ky*, and finally into English *ch*. In the northern dialects of Jutland a distinct *j* is heard after *k* and *g* if followed by *æ*, *e*, *o*, *ö*; for instance, *kjœv'*, *kjœr*, *gjekk*, *kjerk*, *skjell*, instead of *kœv'*, *kœr*, &c.[1]

It is not always perceived that these three consonants *k*, *t*, *p*, and their modifications, represent in reality two quite different effects. If we say *ka*, the effect produced on the ear is very different from *ak*. In the first case the consonantal noise is produced by the sudden opening of the tongue and palate; in the second by their shutting. This is still clearer in *pa* and *ap*. In *pa* we hear the noise of two doors opening, in *ap* of two doors shutting. In *empire* we hear only half a *p*; the shutting takes place in the *m*, and the *p* is nothing but the opening of the lips. In *topmost* we hear likewise only half a *p*; we hear the shutting, but the opening belongs to the *m*. The same in *uppermost*. It is on this ground that these letters have sometimes been called *dividuæ*, or divisible, as opposed to the first class, in which that difference does not exist; for whether I say *sa* or *as*, the sound of *s* is exactly the same.

Sonant Checks, or Mediæ.

We should now have finished our survey of the alphabet of nature, if it was not that the consonantal

[1] See Kuhn's *Zeitschrift*, xii. 147; M. M., *On the Pronunciation of c before e, i, y, æ, eu, oe*, in the *Academy*, 15 Febr. 1871.

stops *k*, *t*, *p*, are liable to certain modifications, which, as they are of great importance in the formation of language, deserve to be carefully considered. What is it that changes *k* into *g* and *ng*, *t* into *d* and *n*, *p* into *b* and *m*? *B* is called a media, a soft letter, a sonant, in opposition to *p*, which is called a tenuis, a hard letter, or a surd. But what is meant by these terms? A tenuis, we saw, was so called by the Greeks in opposition to the aspirates, the Greek grammarians wishing to express that the aspirates had a rough or shaggy sound,[1] whereas the tenues were bald, slight, or thin. This does not help us much. 'Soft' and 'hard' are terms which no doubt express an outward difference of *p* and *b*, but they do not explain the cause of that difference. The process which produces the difference between *k* and *g*, *t* and *d*, *p* and *b*, is well described by Brücke (p. 55): 'In all the systems,' he writes, 'elaborated by the students of language who have studied comparative phonology, the *mediæ* are classed as sonant, because phonetically they stand to the sonant fricative sounds (the sonant breathings) in the same relation as the tenues to the non-sonant (the surd breathing). Some, however, hesitate to class them simply as sonant letters, because they cannot be produced continuously by the sonant voice. Against this we have to remark: The voice, as we have just seen, does sound sometimes really during the shutting of the organs; or, if this is not so, the glottis at least is narrowed during the shutting of the organs so as to be

[1] Brücke, p. 90. τῷ πνεύματι πολλῷ, Dion. Hal. R. von Raumer, *Die Aspiration*, p. 103.

ready to sound, which is never the case with non-sonant consonants. If therefore the tone of the voice does stop, this is only because the difference between the pressure of the air in the chest and the mouth is not sufficiently great to cause a current which would produce a vibration of the vocal chords. With the *mediæ* the vocal chords are ready to sound as long as the closing of the organs lasts, and the voice sounds therefore at once, as soon as the closure is over. This is the characteristic difference between tenuis and media.'

We may now understand why the terms soft and hard, as applied to *b* and *p*, are by no means so inappropriate as has sometimes been supposed. In many parts of Germany the distinction between *t* and *d*, *p* and *b*, is marked much more by hardness and softness of contact than by breath and voice. 'People speak of a hard and soft *b*, and of a hard and soft *d*, and thus seem tacitly to intimate that *p* and *t* do not exist.'[1] Czermak, by using his probe, as described above, found that surd or hard consonants (mutæ tenues) drove it up much more violently than sonant or soft consonants (mutæ mediæ).[2] The normal impetus of the breath is certainly checked, subdued, softened, when we pronounce *b*; it does not strike straight against the barrier of the lips; it hesitates, so to say, and we hear how it clings to the glottis in its slow onward passage. The same observation is made by Dr. Verner.[3] 'In pronouncing

[1] Lewes, *Life of Goethe*, p. 426.

[2] *L. c.* p. 9. Brücke (*Grundzüge*, p. 56) remarks that these are secondary characteristics of the *tenues* and *mediæ*, but nevertheless quite correct.

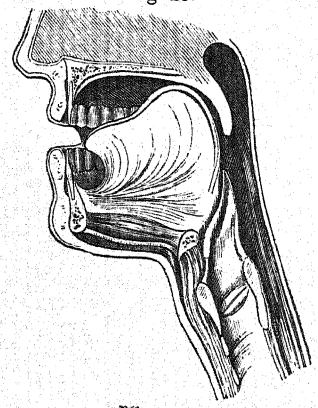
[3] Kuhn's *Zeitschrift*, xxiii. 116.

sonant consonants,' he says, 'the chordæ are brought together so as almost to touch. The small aperture prevents the free stream of the breath, so that the stream becomes weaker, and the closing of the buccal tube and the explosion are less energetic than with the surd consonants.'

Hardness and softness may therefore be quite rightly considered as secondary qualities of *tenues* and *mediæ*, of surd and sonant letters. The true physiological difference, however, between p and b, t and d, k and g, is due to the fact that with the former the glottis is wide open, with the latter narrowed, so as to produce voice, or, of the edges only approximate, whisper.

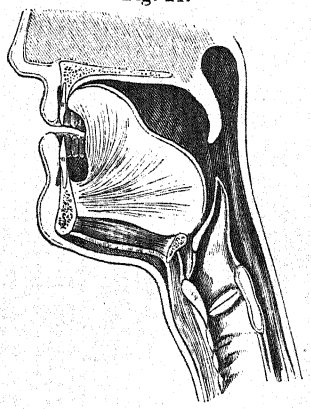
Nasal Checks.

Fig. 23.



ng

Fig. 24.



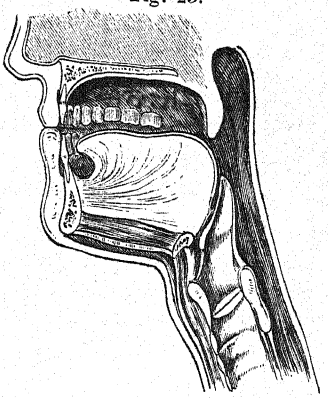
n

Lastly, g, d, b, may be modified to ng, n, m. For these three nasals a full contact [1] takes place, but the

[1] Lepsius, who divides all consonants into *explosivæ* or *dividuæ*, and *fricativæ* or *continuæ*, classes the nasals with the former. I do not

breath is stopped, not abruptly as in the tenues, but in the same manner as with the mediæ. At the same time the breathing is emitted, not through the mouth, but generally through the nose. It is not necessary, however, that breath should be propelled through the nose, as long as the veil is withdrawn that separates the nose from the pharynx. Water injected into the nose while n and m are pronounced rushes at once into the windpipe.[1] Where the withdrawal of the velum is rendered impossible by disease—such a case came

Fig. 25.



m

myself adopt that terminology, but I added these terms in the table on p. 158, simply for the sake of completeness. Signor Ascoli, in his *Lezioni di Fonologia*, p. 19, blames me for this division, evidently unaware that it belongs to Lepsius, and not to me. 'Erra,' he writes, 'quindi Max Müller, ponendo le nasali tra le esplosive.' And he adds, 'La nasale è *continua*, per la manifesta ragione che gli organi rimangono nel suo proferimento, e possono indeterminatemente rimanere, nella stessa disposizione in cui sin da principio si mettono.' This may be right or wrong according to the definition which is given of technical terms, such as *explosivæ* and *continuæ*. But Signor Ascoli ought to have known what Lepsius had written in defence of his view, before he called his view erroneous. Lepsius says: 'It is a decided mistake to reckon *m* and *n* among the *consonantes continuæ*; for in *m* and *n* it is only the vowel element inherent in the first half, which may be continued at pleasure, whilst in all the continuous consonants it is the consonantal element (the friction) which must be continued, as in *f*, *v*, *s*, *z*' (p. 60, note).

[1] Czermak, *Wiener Akademie*, xxiv. p. 9.

under Czermak's [1] observation—pure nasals cannot be produced.[2]

The so-called mouillé or softened nasal, and all other mouillé consonants, are produced by the addition of a final y, and need not be classified as simple letters.[3]

Aspirated Checks.

For most languages the letters hitherto described would be amply sufficient; but in the more highly-organised forms of speech new distinctions were introduced and graphically expressed which deserve some explanation. Instead of pronouncing a tenuis as it ought to be pronounced, by cutting sharp through the stream of breath or tone which proceeds from the larynx, it is possible to gather the breath and to let it explode audibly as soon as the consonantal contact is withdrawn. In this manner we form the hard or surd aspirates which occur in Sanskrit and in Greek, kh, th, ph.

If, on the contrary, we pronounce g, d, b, and allow the soft breathing to be heard as soon as the contact is removed, we have the soft aspirates, which are of frequent occurrence in Sanskrit, gh, dh, bd.

Much discussion has been raised on these hard and soft aspirates, the question being whether their first

[1] Funke, p. 681. Czermak, *Wiener Akademie*, xxix. p. 173.

[2] Professor Helmholtz has the following remarks on M and N: 'M and N resemble the vowels in their formation, because they cause no noise in the buccal tube. The buccal tube is shut, and the voice escapes through the nose. The mouth forms only a resounding cavity, modifying the sound. If we watch from below people walking up-hill and speaking together, the nasals *m* and *n* are heard longest.'

[3] See Brücke, *Grundzüge*, p. 70.

element was really a complete consonantal contact, or whether the contact was incomplete, and the letters intended were only hard and soft spirants. As we have no means of hearing either the old Brahmans or the ancient Greeks pronounce their hard aspirates, and as it is certain that pronunciation is constantly changing, we cannot hope to derive much aid either from modern Pandits or from modern Greeks. The Brahmans of the present day are said to pronounce their kh, th, and ph like a complete tenuis, followed by the spiritus asper. The nearest approach to kh is said to be the English kh in *inkhorn*, though this can hardly be a good illustration, as here the tenuis ends and the aspirate begins a syllable. The Irish pronunciation of *kind, town, pig*, has likewise been quoted as in some degree similar to the Sanskrit hard aspirates. In the modern languages of India, where the Sanskrit letters are transcribed by Persian letters, we actually find kh represented by two letters, k and h, joined together, and pronounced accordingly. With the modern Greeks, on the contrary, the three aspirates have become breathings, like h, th, f. It seems to me that the only two points of importance are, first, whether these aspirates in Greek or Sanskrit were formed with or without complete contact, and, secondly, whether they were classed as surd or as sonant. The ancient grammarians of India allow, as far as I can judge, of no doubt on either of these points. The hard aspirates are formed by complete contact (spṛishṭa), and they belong to that class of letters for which the glottis must be completely open, i. e. to the surd or hard consonants. These two points once

established put an end to all speculations on the dynamic character of these letters. What their exact sound may have been is difficult to determine, because the ancient authorities vary in their descriptions. They are said to be uttered with a strong out-breathing (mahâprâ*n*a), but this, as it is shared by them in common with the soft aspirates and the hard breaths, cannot constitute their distinctive feature. Their technical name 'soshman,' i.e. 'with wind,' would admit of two explanations. 'Wind' might be taken in the general sense of breath, or—and this, I believe, is more correct—in the sense of the eight letters called 'the winds' in Sanskrit, h, *s*, *sh*, s, tongue-root breath (*G*ihvâmûlîya), labial breath (Upadhmânîya), neutral breath (Visarga), and neutral nasal (Anusvâra). Thus it is actually maintained by some ancient grammarians[1] that the hard aspirates are the hard letters, k, t, p, together with the corresponding winds or homorganic breathings; that is to say, kh is=k+tongue-root breath, th=t+s, ph=p+labial breath.

As to the old Greek aspirates, we know that they belonged to the aphōna, i.e. that they were formed by complete contact. They were not originally hemiphona or breathings, though they became so afterwards. That they were hard, or pronounced with open glottis, we must gather from their original signs, such as ΠΗ, and from their reduplicated forms, *tí-thēmi*, *ké-chyka*, *pé-phyka*.[2]

[1] *Survey of Languages*, p. xxxii. *S*âkala-prâtisâkhya, xiii. 18.

[2] Raumer, *Aspiration*, 96. Curtius, *Gr. Etymologie*, ii. p. 11.

It is more difficult to determine the real nature of the Sanskrit soft aspirates, gh, dh, bh. According to some grammarians they are produced by the union of g, d, b, with 'h, which in Sanskrit is a sonant letter, a spiritus lenis in its least modified form.[1] The same grammarians, however, maintain that they are not formed entirely with the glottis closed, or as sonant letters, but that they and the h require the glottis '*both to be opened and to be closed.*' What this means is somewhat obscure. A letter may be either surd or sonant, but it can hardly be both, and the fact that not only the four soft aspirates but the simple 'h[2] also were considered as surd-sonant, would seem to show that an intermediate rather than a compound utterance is intended. One thing is certain, namely, that neither the surd nor the sonant aspirates were originally mere breathings. They are both based on complete contact, and therefore different from the surd and sonant breathings which sometimes take their places in cognate tongues.

The General Alphabet.

We have thus finished our survey, which I have tried to keep as general as possible, without dwelling on any of the less normal letters, which are found in

[1] If Sanskrit writing were not of so late a date, the fact that the Vedic *dh* or *lh* is actually represented by a combination of *l* and h might be quoted in support of this theory (ळ = ळ्ह).

[2] *S*âkala-Prâti*s*âkhya, xiii. 1. The expression 'the breath becomes both sonant and surd between the two,' i.e. between the complete opening and shutting, shows that an intermediate sound is meant, or, it may be, a sonant check followed by a whispered h.

every language, in every dialect—nay, in the pronunciation of every individual. It is the excessive attention paid to these exceptional letters that has rendered most works on Phonetics so complicated and worthless. If we have clearly impressed on our mind the normal conditions of the organs of speech in the production of vowels and consonants, it will be easy to arrange the sounds of every new language under the categories once established, on a broad and firm basis. To do this, to arrange the alphabet of any given language according to the compartments planned by physiological research, is the office of the grammarian, not of the physiologist. But even here, too much nicety is dangerous. It is easy to perceive some little difference between k, t, p, and g, d, b as pronounced by an Englishman and by a German; yet each has only one set of tenues and mediae, and to class them as different and represent them by different graphic exponents would produce nothing but confusion. The Semitic nations have sounds which are absent in the Indo-European languages—the sounds which Brücke has well described as *gutturales verœ*, true gutturals; for the letters which we commonly call gutturals, k, g, have really nothing to do with the guttur, but with the root of the tongue and the soft palate. But their character, if only accurately described, as it has been by Czermak, will easily become intelligible to the student of Hebrew and Arabic, if he has once acquired a clear conception of what has been well called the *Alphabet of Nature*. To sum up, we must distinguish three things:—

(1) What letters are made of.
(2) How they are made.
(3) Where they are made.

(1) Letters are formed—

(a) Of vocalised breath. These are called vowels (Phōnéenta, no contact).

(b) Of breath, not vocalised. These are called breathings (Hēmíphōna, slight contact).

(c) Of articulate noise. These are called checks or stopping letters (Áphōna, complete contact).

(2) Letters are formed—

(a) With wide opening of the chordæ vocales. These are called surd letters or non-sonant (psila, tenues, hard, sharp; vivârasvâsâghoshâh).

(b) With a narrowing of the chordæ vocales. These are called sonant letters (mesa, mediæ, soft, blunt; samvâranâdaghoshâh). This distinction applies both to breathings and to checks, though the effect as pointed out is different.

(3) Letters are formed in different places by active and passive organs, the normal places being those marked by the contact between the root of the tongue and the palate, the tip of the tongue and the teeth, and the upper and lower lips, with their various modifications.

PHYSIOLOGICAL ALPHABET.

Places.	*Emissions of Breath.*			*Checks of Breath.*		
	Rushing Surd.	Rustling Sonant.	Rustling Trilled.	Rushing Surd.	Rustling Sonant.	Rustling Nasal-Sonant.
1. Glottis	‘ hand	’ and		‘	’	
2. Root of tongue and soft palate	’h loch	’h Tage, G.	*r*	k (kh)	g (gh)	*n* (ng)
3. Root of tongue and hard palate	ẏ ich, G.	ẏ yea	.	*k* (*kh*)	*g* (*gh*)	ñ (ny)
4. Tip of tongue and teeth	s rice	z to rise	l	t (th)	d (dh)	
5. Tongue reversed and palate	*s* sharp	*z* pleasure	r	*t* (*th*)	*d* (*dh*)	(*n*)
6. Tongue and edge of teeth	th breath	dh breathe				
7. Lower lip and upper teeth	f life	v live				
8. Upper and lower lips	. .	w Quell, G.		p (ph)	b (bh)	m
9. Upper and lower lips rounded	ẇ which	ẇ with				
	Fricativæ sive Continuæ.			Prohibitivæ sive Explosivæ.		

APPENDIX TO CHAPTER III.

On Transliteration.

HAVING on former occasions discussed the problem of transcribing languages by a common alphabet,[1] I should, for the present, have passed over that subject altogether, if I had not been repeatedly urged to declare my opinion on other alphabets recommended to the public by powerful advocates. No one has worked more energetically for the propagation of a common alphabet than Professor Lepsius, of Berlin; and though, in my opinion, and in the opinion of much more competent judges, such as Brücke, the physiological basis of his alphabet is not free from error—nay, though in the more limited field of languages on which I can form an independent opinion he has certainly misapprehended the nature of several letters and classes of letters—I should nevertheless rejoice in the success even of an imperfect alphabet, supposing it had any chance of general adoption. If his alphabet could become the general alphabet at least among African scholars, it would be a real benefit to that new branch of philological studies. But I regret to see that even in Africa those who, like Dr. Bleek, are most anxious to follow the propositions of Professor Lepsius, find it impossible to do so, 'on account of its too great typographical

[1] Proposals for a Missionary Alphabet in M.M.'s *Survey of Languages* (2nd edition), 1855.

difficulties.'[1] If this is the case at a steam printing-office in Cape Town, what can we expect at Neu-herrnhut? Another and even more serious objection, urged likewise by a scholar most anxious to support the Church Missionary Alphabet, is that the scheme of Dr. Lepsius, as modified by the Church of England and Continental Missionary Societies, has long ceased to be a uniform system.

> The Societies (says the Rev. Hugh Goldie, in his 'Dictionary of the Efik Language,' Glasgow, 1862) have not succeeded in establishing a uniform system, for which Dr. Lepsius's alphabet is taken as a base: deviations are made from it, which vary in different languages, and which destroy the claim of this system to uniformity. Marks are employed in the Church of England Society which are not employed by the continental societies, and *vice versâ*. This, I think, is fatal to the one great recommendation of the system, namely, its claim to be received as a common system. Stripped of its adventitious recommendations, and judged on its own merits, we think it deficient in simplicity.

These are serious objections; and yet I should gladly have waived them and given my support to the system of Professor Lepsius, if, during the many years that it has been before the public, I had observed any signs of its taking root, or of that slow and silent growth which alone augurs well for the future. What has been, I believe, most detrimental to its success, is the loud advocacy by which it was attempted to force that system on the acceptance of scholars and missionaries, many of them far more competent, in their own special spheres,[2] to form an

[1] Dr. Bleek, *Comparative Grammar*, p. xii.

[2] Professor Lepsius has some interesting remarks on the African clicks. The Rev. J. L. Döhne, author of a *Zulu Kafir Dictionary*, expressed himself against Dr. Lepsius's proposal to write the clicks *before*

opinion of its defects than either its author or its patrons. That my unwillingness to adopt the system of Professor Lepsius did not arise from any predilection for my own Missionary Alphabet, I have proved by continuing for a long time to employ the system of Sir William Jones, particularly when writing for the English public. My own system was, in every sense of the word, a missionary system. My object was, if possible, to devise an alphabet, capable of expressing every variety of sound that could be physiologically defined, and yet not requiring one single new or artificial type. As in most languages we find, besides the ordinary sounds that can be expressed by the ordinary types, one, or at the utmost two modifications to which certain letters or classes of letters are liable, I proposed italics as exponents of the first degree of modification, small capitals as exponents of the second degree. Thus as, besides the ordinary dentals, t, th, d, dh, we find in Sanskrit the linguals, I proposed that these should be printed as italics, *t*, *th*, *d*, *dh*, instead of the usual but more difficult types, t′, th′, d′, dh′; or ṭ, ṭh, ḍ, ḍh. As in Arabic we find, besides the ordinary dentals,

their accompanying letters. He at the same time advanced some etymological arguments in support of his own view. How is the African missionary answered? I quote Professor Lepsius's reply, which can hardly have convinced his learned adversary. 'Equally little,' he writes, 'should we be justified in inferring from the fact, that in the Sanskrit लेढि let'i (sic), he licks, from लिह् lih, and ति ti, t' (sic) must be pronounced not as th (sic), but as ht (sic).' How the change of Sanskrit h and t into *d'* (ढ is *dh*, not *th*) has any bearing on the Rev. J. L. Döhne's argument about the clicks, few missionaries in Africa will be able to understand.

another set of linguals, I proposed to express these too by italics. These italics were only intended to show that the dentals printed in italics were not meant for the usual dentals. This would have been sufficient for those not acquainted with Sanskrit or Arabic, while Sanskrit and Arabic scholars could have had little doubt as to what class of modified dentals was intended in Sanskrit or Arabic. If certain letters require more than one modification—as, for instance, t, s, n, r—then small capitals would have to come in, and only in very extreme cases would an additional diacritical mark have been required for a third modification of one common type. If through the liberality of one opulent society, the Church Missionary Society,[1] complete founts of complicated and expensive types are to be granted to any press that will ask for them, there is no further need for italics or small capitals—mere make-shifts, that could only have recommended themselves to poor missionaries wishing to obtain the greatest results by the smallest means. It is curious, however, that in spite of all that has been urged against a systematic use of italics, italics crop out almost everywhere both in philological works at home and in missionary publications abroad, while as yet I have very seldom met with the Church Missionary o̲ for the vowel in French *cœur*, or with the Church Missionary s̆ for the Sanskrit sh, as written by Sir W. Jones.

Within the circle of languages in which I take a more immediate interest, the languages of India, the

[1] See Resolution 2, carried August 26, 1861, at the Church Missionary House, London.

adoption of the alphabet advocated by the Church Missionary Society seems now, after the successful exertions of Sir Charles Trevelyan, more than hopeless, nor do I think that for people situated like the modern Hindus such a *pis-aller* as italics and small capitals is likely to be popular. Living in England, and writing chiefly for England and India, I naturally decided to follow that system which was so modestly put forth by Sir William Jones in the first volume of the 'Asiatic Researches,' and has since, with slight modifications, not always improvements, been adopted by the greatest Oriental scholars in India, England, and on the Continent. In reading that essay, written about eighty years ago, one is surprised to see how well its author was acquainted with all that is really essential either in the physiological analysis or in the philological definition of the alphabet. I do not think the criticism of Professor Lepsius quite fair when he imputes to Sir W. Jones 'a defective knowlege of the general organism of sounds, and of the distinct sounds to be represented;' nor can I blame the distinguished founder of the Asiatic Society for the imperfect application of his own principles, considering how difficult it is for a scholar to sacrifice his own principles to considerations of a more practical nature.

The points on which I differ from Sir W. Jones are of very small consequence. They arise from habit rather than from principle. I should willingly give them up if by so doing I could help to bring about a more speedy agreement among Sanskrit scholars in England and India. I am glad to find

that in the second edition of his 'Standard Alphabet' Professor Lepsius has acknowledged the practical superiority of the system of Sir W. Jones in several important points, and I think he will find that his own system may be still further improved, or at all events have a better chance of success in Europe as well as in India, if it approaches more and more closely to that excellent standard. The subjoined table will make this clearer than any comment:—

Sanskrit Alphabet, as transcribed by Sir W. Jones, by M. M., in the Missionary, and in the Church Missionary Alphabets.

Sir W. Jones.		M. M.	Missionary Alphabet.	Church Miss. Alphabet.
अ	a	a	a	a
आ	á	â	â	ā
इ	i	i	i	i
ई	í	î	î	ī
उ	u	u	u	u
ऊ	ú	û	û	ū
ऋ	rĭ	ṛi	*ri*	ṛ̥
ॠ	rī	ṛî	*rî*	ṝ
ऌ	lrĭ	ḷi	*li*	ḷ̥
ॡ	lrī	ḷî	*lî*	ḹ
ए	é	e	ê	ai or ē
ओ	ó	o	ô	au or ō
ऐ	ai	ai	âi	āi
औ	au	au	âu	āu

Sir W. Jones.		M. M.	Missionary Alphabet.	Church Miss, Alphabet.
क	c	k	k	k
ख	c'h	kh	kh	k̆ or kh
ग	g	g	g	g
घ	g'h	gh	gh	ġ or gh
ङ	ṅ	ṅ	ɴ	ṅ
च	ch	ch	*k*	k̆ or č
छ	ch'h	chh	*kh*	k̆̆ or čh
ज	j	j	*g*	ǵ or ǰ
झ	j'h	jh	*gh*	ǵ̆ or ǰh
ञ	ñy	ñ	*ñ*	ń
ट	ṫ	ṭ	*ṫ*	ṭ
ठ	ṫ'h	ṭh	*ṫh*	ṭ̆ or ṭh
ड	ḋ	ḍ	*ḋ*	ḍ
ढ	ḋ'h	ḍh	*ḋh*	ḍ̆ or ḍh

Sir W. Jones.		M. M.	Missionary Alphabet.	Church Miss. Alphabet.
ण	ṅ	ṇ	*n̈*	ṇ
त	t	t	t	t
थ	t'h	th	th	t' or th
द	d	d	d	d
ध	d'h	dh	dh	d' or dh
न	n	n	n	n
प	p	p	p	p
फ	p'h	ph	ph	ṕ or ph
ब	b	b	b	b
भ	b'h	bh	bh	b' or bh
म	m	m	m	m
ह	h	h	h	h
य	y	y	y	y

Sir W. Jones.		M. M.	Missionary Alphabet.	Church Miss. Alphabet.
र	r	r	r	ṛ or r
ल	l	l	l	l
व	v	v	v	v
श	ś	ś	*s*	ś or χ
ष	sh	sh	sh	ṣ or š
स	s	s	s	s
ः	h(ĕ)	ḥ	*h*	:
ं	ṅ	ṁ	*m*	~
+	—	χ	—	ɔc
ऽ	—	*φ*	—	ɔc
ऌ	—	ḷ	*l*	ḷ
ॡ	—	ḷh	*lh*	—

N.B. For the use of missionaries and travellers a vocabulary has been compiled by Mr. John Bellows, which has proved of great assistance in collecting the words of new languages and dialects, *Outline Dictionary for the Use of Missionaries, Explorers, and Students of Language*, with an introduction on the proper use of the ordinary English alphabet in transcribing foreign languages by Max Müller, M.A. London: Trübner & Co., 60 Paternoster Row. Calcutta: George Wyman & Co. 1867.

CHAPTER IV.

PHONETIC CHANGE.

THOUGH the number of vowels and consonants, according to Mr. Melville Bell's system, gives but a faint idea of the enormous wealth of vocalic and consonantal utterances at the command of the human voice, yet even that limited number, as we saw, never occurs in its completeness in any one of the spoken languages of the world. We find very rich and very poor alphabets, and when we have to deal with written languages, we must not forget that in them the same letter often expresses very different sounds, while different letters express as often one and the same sound.

It is curious how little people are aware of this in their own language. In modern German, for instance, the written *g* has decidedly three different powers. It is pronounced *g* and *ǵ* in *Wege*, it is pronounced *ch* in *Weg* in the North, and it is pronounced *k* in the South, so that Schiller rhymes *Weg* with *keck*. Here then we have something like Grimm's Law exemplified in one and the same language. And such is the influence of writing on pronunciation that some German purists actually maintain that the final *g*

should be pronounced as *g* in *gabe*, though this would be against all analogy in German, for in modern German no sonant letters are tolerated at the end of words.

It may easily be imagined what havoc is wrought, when languages come to be written down for the first time. If missionaries complain that they cannot distinguish in what they hear spoken by natives between *k* and *g*, *t* and *d*, *p* and *b*, the fault may be on the side of the speakers who often utter sounds that are neither surd nor sonant, but it may also be the fault of the hearers. The Ainos, for instance, have a dental of which, as the missionaries assure us, it is impossible to say whether it is a *t* or a *d* (see p. 190 infra). Much depends here on the accurate ear of those who introduce writing among illiterate tribes. Mr. Horatio Hale (*Journal of Anthropol. Institute*, 1885, p. 238) mentions a case in point. There is in Hawaian a catch of the breath which distinguishes, for instance, *ao*, daylight, from *a'o*, to teach. This catch is really the last remnant of a consonant, for *a'o*, to teach, was originally *ako*. A similar catch has been observed by the Rev. Asher Wright among the Senecas and other Indian tribes, but it has seldom been marked in writing. Mr. Melville Bell (*University Lectures*, p. 45) assures us that in the dialect of Renfrewshire in Scotland also a throat-catch is regularly used instead of *t* between vowels, as in *butter*, *water*, pronounced *bu'er*, *wa'er*. If such sounds are not observed and marked in writing, they are apt to disappear after a time in speaking also, particularly where the missionaries who introduce writing are also the first to teach reading.

Rich Alphabets.

We generally find the largest number of sounds and letters in languages which have absorbed several dialects, or are the result of a mixture of different languages, each retaining for a time its own phonetic peculiarities. We see this, for instance, very clearly in English and in Hindustani. In French also we can see an evident mixture of Romanic and Teutonic sounds. It is because French is Latin as spoken not only by the Roman provincials but by the German Franks, that we find in its dictionary words beginning with *h* and with *gui*. The former is due to German throats; the latter is an attempt of a Roman mouth to pronounce the German *w*. Thus *haïr* is to hate; *hameau*, home; *hâter*, to haste; *déguiser* points to *wise*, *guile* to *wile*, *guichet* to *wicket*. It is because English is Saxon as spoken not only by Saxons, but likewise by Normans, that we hear in it several sounds which do not occur in any other Teutonic dialects. The sounds of *ch* and *j* in English, though not the same as in modern French, are Romanic rather than Teutonic sounds; but, once admitted into English, their influence has spread to words of Saxon descent also. Thus *cheer* in *good cheer* is the French *chère*, the Mediæval Latin *cara*;[1] *chamber*, *chambre*, *camera*; *cherry*, A. S. *cirse*, Fr. *cerise*, Lat. *cerasa* or *cerasia*; to *preach*, *prêcher*, *prædicare*; *joy* is *gaudium*, *judge* is *judex*, &c. But the same sounds

[1] Cara in Spanish, chière in Old French, mean *face*; Nicot uses 'avoir la chère baissée.' It afterwards assumed the sense of welcome, and hospitable reception. Cf. Diez, *Lex. Etym.* s. v. Cara.

found their way into Saxon words also, when the gutturals were followed by non-guttural vowels, by *æ* (*ai*), *é* (*ô*), and *y*, *ý*, e. g. *chaff*, *cheap*, *chew*, *child*, *churl* for A. S. *ceaf*, *céap*, *céowan*, *cild*, *ceorl*; but *keel*, *kin*, *kiss* for A. S. *célan*, *cyn*, *cyssan*. In such words as *rich*, *teach*, *fetch*, the guttural was originally followed by a vowel, viz. A. S. *rîce*, *tæccan*, *feccean*. Words like *bridge*, *hedge*, *edge*, *ridge* correspond to A. S. *brycg*, German *Brücke*, *hecg*, G. *Hecke*, *ecg*, G. *Ecke*, *hrycg*, G. *Rücken*.[1]

The soft sound of *z* in *azure* or of *s* in *vision* is likewise of Romanic origin.

Words, on the contrary, in which *th* occurs are Saxon, and had to be pronounced by the Normans as well as they could. To judge from the spelling of MSS., they would often seem to have pronounced *d* instead of *th*. Even in modern English we still hear both *burden* and *burthen*, while when we hear an Irishman, it is often difficult to tell whether he says *murther* or *murder*. The same applies to words containing *wh*, originally *hw*, or *ght*, originally *ht*; as in *who*, *which*, or *bought*, *light*, *right*. All these are truly Saxon, and the Scotch dialect preserves the original guttural sound of *h* before *t*, while it has vanished in English.

Sanskrit owes its rich and perfect alphabet, not so much to mixture, though the linguals may have been of non-Aryan origin, as to the fact that the language had been carefully analysed, when it existed as yet in a spoken state only, while the written signs were contrived at a later time, evidently borrowed from

[1] Sievers, *Angelsächsische Grammatik*, § 206.

a Semitic source, but systematically adapted so as to provide a separate sign for every sound of the old oral alphabet.

Poor Alphabets.

There are other languages in which we look in vain for letters which to us would seem almost indispensable. We are so accustomed to look upon *pa* and *ma* as the most natural articulations, that we can hardly imagine a language without them. We have been told over and over again that the names for *father* and *mother* in all languages are derived from the first cry of recognition which an infant can articulate, and that it could at that early age articulate none but those formed by the mere opening or closing of the lips. It is a fact, nevertheless, that the Mohawks, of whom I knew an interesting specimen at Oxford, never, either as infants or as grown-up people, articulate with their lips. They have no *p*, *b*, *m*, *f*, *v*, *w*—no labials of any kind; and although their own name Mohawk would seem to bear witness against this, that name is not a word of their own language, but was given to them by their neighbours. Nor are they the only people who always keep their mouths open and abstain from articulating labials.[1] They share this peculiarity with five other tribes, who together form the so-called six nations, *Mohawks*, *Senekas*, *Onandagos*, *Oneidas*, *Cayugas*, *and Tuscaroras*. The Hurons likewise have no labials, and

[1] Brosses, *Formation mécanique des Langues*, i. p. 220: 'La Hontan ajoute qu'aucune nation du Canada ne fait usage de la lettre *f*, que les Hurons, à qui elles manquent toutes quatre (B, P, M, F), ne ferment jamais les lèvres.' *F* and *s* are wanting in Rarotongan. Hale, p. 232.

there are other languages in America with a similar deficiency.[1] The nearest approach to *p* seems to them *kw*, and thus we find that the Iroquois, when they tried to pronounce the English word *penny*, called it *kwénis*, and then used the word in the more general sense of copper.[2]

The gutturals are seldom absent altogether; in some, as in the Semitic family, they are most prominent, and represented by a numerous array of letters. Several languages have only *k*, others only *g*, while some are said not to distinguish between *k* and *g*. The sound of *g* as in *gone*, of *j* as in *jet*, and of *z* as in *zone*, which are often heard in Kafir, have no place in the Sechuana alphabet.[3] There are a few dialects, however, mentioned by Bindseil, which are entirely destitute of gutturals; for instance, that of the Society Islands.[4] It was unfortunate that one of the first English names which the natives of these islands had to pronounce was that of Captain Cook, whom they could only call *Tute*. The Tahitian, the Hawaian, and Samoan[5] are likewise said to be with-

[1] See Bindseil, *Abhandlungen*, p. 368. The Mixteca language has no *p*, *b*, *f*; the Mexican no *b*, *v*, *f*; the Totonaca no *b*, *v*, *f*; the Kaigáni (Haidah) and Thlinkit no *b*, *p*, *f* (Pott, *Et. F.* ii. 63); the Hottentot no *f* or *v* (Sir G. Grey's Library, i. p. 5); the languages of Australia no *f* or *v* (*ibid.* ii. 1, 2). Some of the statements of Bindseil as to the presence and absence of certain letters in certain languages, require to be re-examined, as they chiefly rest on Adelung's *Mithridates*.

[2] J. N. B. Hewitt, in *Science*, 1888, Jan. 6.

[3] Bindseil, *l. c.* 344; *Mithridates*, i. 632, 637.

[4] Appleyard, p. 50.

[5] Hale, p. 232. To avoid confusion, it may be stated that throughout Polynesia, with the exception of Samoa, all the principal groups of islands are known to the people of the other groups by the name of their largest island. Thus, *the Sandwich Islands* are termed *Hawaii*;

out gutturals. In these dialects, however, there existed originally, as we shall see, an indifferentiated letter, halfway between *t* and *k*.

The dentals seem to exist in every language.[1] The *d*, however, is never used in Chinese, nor in Mexican, Peruvian, and several other American dialects,[2] and the *n* is absent in the language of the Hurons[3] and of some other American tribes. The *s* is absent in the Australian dialects[4] and in several of the Polynesian languages, where its place is taken by *h*.[5] Thus in Tongan we find *hahake* for *sasake*; in the New Zealand dialect *heke* for *seke*. In Rarotongan the *s* is entirely lost, as in *ae* for *sae*. When the *h* stands for an original *s*, it has a peculiar hissing sound which some have represented by *sh*, others by *zh*, others by *he* or *h'*, or simply *e*. Thus the word *hongi*, from the Samoan *songi*, meaning to salute by pressing noses, has been spelt by different writers, *shongi*, *ehongi*, *heongi*, *h'ongi* and *zongi*.[6] But even keeping on more familiar ground, we find that so perfect a language as Sanskrit has no *f*, no soft sibilants, no short *e*, and *o*; Greek has no *y*, no *w*, no *f*, no soft sibilants; Latin has no θ, ϕ, χ. English is deficient in guttural breathings like the German *ach* and *ich*. High German has no *w* like the English *w*

the Marquesas, Nukuhiva; the Society Islands, Tahiti; the Gambier Group, Mangareva; the Friendly Islands, Tonga; the Navigator Islands, Samoa (all), see Hale, pp. 4, 120; *the Hervey Islands, Rarotonga; the Low or Dangerous Archipelago, Paumotu; Bowditch Island* is *Fukaafo*.

[1] Bindseil, *l. c.* p. 358. [2] Ibid. p. 365. [3] Ibid. p. 334.
[4] Sir George Grey's Library, ii. 1, 3.
[5] Hale, *l. c.* p. 232. [6] Ibid. pp. 122, 234.

in wind, no *th, dh, ch, j*. While Sanskrit has no *f*, Arabic has no *p*. *F* is absent not only in those dialects which have no labial articulation at all, but we look for it in vain in Finnish (despite of its name, which was given it by its neighbours),[1] in Lithuanian,[2] in the Gipsy languages, in Tamil, Mongolian, some of the Tataric dialects, Burmese, &c.[3]

The Otyi-herero has neither *l* nor *f*, nor the sibilants *s r z*. The pronunciation is lisping, in consequence of the custom of the *Va-herero* of having their upper front teeth partly filed off, and four lower teeth knocked out. It is perhaps due to this that the Otyi-herero has two sounds similar to those of the hard and soft *th* and *dh* in English (written, *s, z*).[4]

It is well known that *r* is felt to be a letter difficult to pronounce, not only by individuals but by whole nations. No Chinese who speaks the classical language of the empire, ever pronounces that letter. They say *Ki li sse tu* instead of *Christ*; *Eulopa* instead of *Europe*; *Ya me li ka* instead of *America*. Hence neither *Mandarin* nor *Sericum* can be Chinese words: the former is the Sk. mantrin, counsellor; the latter derived from Seres, a name given to the Chinese by their neighbours.[5] It is likewise absent

[1] Pott, *Etymologische Forschungen*, ii. 62.

[2] '*F* does not occur in any genuine Sclavonic word.'—Brücke, *Grundzüge*, p. 34.

[3] Bindseil, p. 289.

[4] Sir G. Grey's Library, i. 167. A. Kaufmann (*Das Gebiet des Weissen Flusses und dessen Bewohner*; Brixen, 1861) says of the Dinka language that it is without sibilants, such as *s, sh, z*. This may be due to the fact that the Dinka, like all other negroes of the White River, take out the front teeth of the lower jaw. They are also without *h* and *ch*, but have instead the sound of *ng* and *gh*, like Arabic ع.

[5] Pott, *Deutsche Morgenländische Gesellschaft*, xii. 453.

in the language of the Hurons, the Mexicans, the Othomi, and other American dialects; in the Kafir language,[1] and in several of the Polynesian[2] tongues. In the Polynesian tongues the name of Christ is *Kalaisi*, but also *Karaita* and *Keriso*. *R* frequently alternates with *l*, but *l* again is a sound unknown in Zend, and in the Cuneiform Inscriptions,[3] in Japanese (at least some of its dialects) and in several American and African tongues.[4]

It would be interesting to prepare more extensive statistics as to the presence and absence of certain letters in certain languages; nay, a mere counting of consonants and vowels in the alphabets of each nation might yield curious results. I shall here only mention a few:—

Hindustani, which admits Sanskrit, Persian, Arabic, and Turkish words, has 48 consonants, of which 13, however, are classical Sanskrit aspirates, nasals, and sibilants, and 14 Arabic letters.

Sanskrit has 37 consonants, or, if we count the Vedic l and lh, 39.

Turkish, which admits Persian and Arabic words, has 32 consonants, of which only 25 are really Turkish.

[1] Boyce's *Grammar of the Kafir Language*, ed. Davis, 1863, p. vii. The *r* exists in the Sechuana. The Kafirs pronounce *l* instead of *r* in foreign words; they have, however, the guttural trills. Cf. Appleyard, *The Kafir Language*, p. 49.

[2] The dialects of New Zealand, Rarotonga, Mangareva, Paumota, Tahiti, and Nukuhiva have *r*; those of Fakaafo, Samoa, Tonga, and Hawai, have *l*. See Hale, *l. c.* p. 232.

[3] See Sir H. Rawlinson, *Behistun*, p. 146; Spiegel, *Parsi Grammatik*, p. 34.

[4] Bindseil, p. 318; Pott, *l. c.* xii. 453.

Persian, which admits Arabic words, has 31 consonants, of which 22 are really Persian, the rest Arabic.

Arabic has 28 consonants.

The *Kafir* (Zulu) has 26 consonants, besides the clicks.

Hebrew has 23 consonants.

English has 20 consonants.

Greek has 17 consonants, of which 3 are compound.

Latin has 17 consonants, of which 1 is compound.

Mongolian has 17 or 18 consonants.

Finnish has 11.

Polynesian has 10 native consonantal sounds; no dialect has more—many have less.[1]

Some *Australian* languages have 8, with three variations.[2]

The *Melanesian* languages are richer in consonants. The poorest, the Duauru, has 12; others 13, 14 and more.[3]

Causes of Phonetic Change.

One of the strangest facts with which the student of language is confronted, and for which, as far as possible, he has to account, is the change of letters, both vowels and consonants. In one sense the language of Tennyson is the same as that of Shakespeare, that of Shakespeare the same as that of Chaucer, that of Chaucer the same as that of Alfred; and yet,

[1] Cf. Hale, p. 231; Von der Gabelentz, *Abhandlungen der philologisch-historischen Classe der Königlich-Sächsischen Gesellschaft der Wissenschaften*, vol. iii. p. 253. Leipzig, 1861.

[2] Hale, p. 482.

[3] See Von der Gabelentz, *l. c.*

when we see it written, the language of Alfred is so different that Tennyson himself would find it impossible to understand it. The same applies to all languages. Whether they have been reduced to writing, or whether they live only as spoken by the people, they all change, nay, we may add, they cannot help changing.

When touching on the growth of language, as distinguished from the history of language,[1] I pointed out as the main causes of this change *Phonetic Decay* and *Dialectic Growth*. Some scholars have objected to the name of Phonetic Decay, and, to avoid useless controversy, I am quite willing to call it Phonetic Variety or Change. Others have assigned different names to these two motive powers, distinguishing them as *Successive Change* and *Parallel Variety*, or in German, as *Laut-wandel* and *Laut-wechsel*. So long as these names are clearly defined, there is no objection to any one of them. Benfey[2] admitted, in addition, what he called *grammatical change*. This, however, is of a different character altogether. It is quite true that the change of *div* into *deva* and *daiva*, of *lip* into *leipo* and *leloipa*, or of *mensa* into *mensae* may be called a change quite as much as that of *hafoc* into *hawk*. But in all these cases the change has a purpose. It produces a change of meaning, and must be treated as intentional or dynamic. The changes, on the contrary, of which we are here treating are not intentional, they are not meant to produce a change of meaning,

[1] Vol. i. chap. 2.

[2] *Die Spaltung einer Sprache in mehrere lautverschiedene Sprachen*, in *Nachrichten der K. Gesellschaft zu Göttingen*, 1877, 24 Aug.

and they require in consequence a totally different explanation.

Difference between Phonetic Change and Dialectic Growth.

Phonetic Change, which is generally, if not always, *Phonetic Decay*, is necessarily successive. Thus *hawk* presupposes A. S. *hafoc*, *to lie* presupposes A. S. *licgan*, and *léogan*. And whatever may be said of the inherent rights of language to shape words according to its own pleasure, we are perfectly justified in saying that *diluvium* was corrupted to *deluge*, that *pipio* was reduced to *pigeon*, and that *sapius* decayed and became *sage*. It is surely corruption or decay, if words like *salvia* and *sapius* can no longer be distinguished, or when *sonus*, *subundare*, A. S. *sund*, swimming, and A. S. *gesund* dwindle all down to *sound*.

But whether we call this process decay or change, or, as some would prefer, growth and development, we can and ought to distinguish it very carefully from *Dialectic Change* or *Growth*. If we compare, for instance, the different dialects of Aryan speech, we ought not to treat modern German *drei* as a corruption of Gothic *threis*, nor Gothic *threis* as a corruption of Latin *tres*, nor Latin *tres* as a corruption of Greek *treis*, nor Greek *treis* as a corruption of Sanskrit *trayas*. All these are parallel, not successive forms, and no one can say which was before or after the other. The *th* in Gothic *threis* is as little a phonetic corruption of *t*, as *t* in Gothic *twai* is a phonetic corruption of *d* in *duo*, or *d* in *door* a phonetic corruption of *θ* in Greek *thýra*, or of *f* in *foris*.

No doubt, in many cases the Sanskrit form seems to us phonetically more primitive than corresponding forms in Greek, Latin, or Gothic. But the principle holds good nevertheless that they cannot be descended one from the other. It is quite true also that we often see the same change of letters produced by Phonetic Decay and by Dialectic Growth, but we shall see that nevertheless the principle of these two kinds of change is different. It is differentiation in Dialectic Growth, it is dissolution in Phonetic Decay.

Dialectic Change.

It was formerly the fashion to speak of a Proto-Aryan language from which Sanskrit, Greek, Latin, Teutonic, Slavonic, and Celtic were all derived, just as French was derived from Latin, or English from Anglo-Saxon. That theory, however, has hardly held its own for a longer time than the theory which it was meant to replace, namely that all Aryan languages were derived from Sanskrit.

And yet there was some truth in that theory, if only rightly understood. To imagine that there was a settled Proto-Aryan language, as settled as Sanskrit, and that it became modified afterwards, according to strict phonetic rules, is, no doubt, impossible. That process can be studied to great advantage in the transition of Sanskrit into Prâkrit dialects. But we have only to study languages, before they are reduced to writing, in order to see that the natural state of language is always dialectic, and dialectic, not in the sense in which Italian, Spanish, and French are dialects, derived from Latin, but as we often find in

the smallest Polynesian island two or three dialects existing side by side, not one of which has a right to claim precedence before the others.

Indifferentiated Letters.

A very common feature in these spoken dialects is the uncertain character of their consonants and vowels. We imagine that in every language, whatever the number of letters may be, each letter must at all events be definite, a *k*, or a *p*, or a *t*, a *g*, or a *b*, or a *d*. But that is not so. There are races, for instance, who are quite unable to distinguish, either in hearing or in speaking, between some of the most normal letters of our alphabet. Dr. Washington Mathews, in his description of the Hidatsas, whose language belongs to the Dacota stock, informs us that it is difficult to say whether they pronounce *mia*, *wia*, or *bia* for mother, *dopa*, *nopa*, *lopa*, or *ropa* for two. In the language of the Mohawks the word for man is written *rongwe*, *longwe*, *ronkwe*, or *lonkwe*.[1] No two consonants seem to us more distinct than *k* and *t*. Nevertheless, in the language of the Sandwich Islands, these two sounds run into one, and it seems next to impossible for a foreigner to say whether what he hears is a guttural or a dental. Chamisso (*Werke*, ii. 76) states that in these islands *k* and *t* have the same value, likewise *r*, *l*, and *n*; and he confesses (ii. 95) that though his ear was well schooled, he was always doubtful between *d*, *dh*, and *s*, between *ch*, *k*, and *g*. Thus we find that the same word is written by

[1] See Horatio Hale, 'An Experiment in Phonetics,' *Journal of the Anthropological Institute*, 1885, p. 236.

English missionaries with *k*, by French missionaries with *t*, and they both agree that it takes months of patient labour to teach a Hawaian youth the difference between *k* and *t*, *g* and *d*, *l*, *n*, and *r*.[1] When a boy is told to pronounce *fish*, he will say *pihi*, when told to repeat *knife*, he utters *neipa*. No wonder that under these circumstances the English word *steel* should appear in the Hawaian dictionary as *kila*. Double letters are not tolerated, hence *st* became *t*. No word ever ends in a consonant, hence final *a* had to be added; and *t* being pronounced like *k*, *steel* was necessarily changed to *kila*.[2]

Such a confusion between two prominent consonants like *k* and *t* would destroy the very life of English. The distinction between *carry* and *tarry*, *car* and *tar*, *key* and *tea*, would simply be lost. Yet the Hawaian language struggles successfully against these disadvantages, and has stood the test of being used for a translation of the whole Bible, without being found wanting.

If we consider that *r* is in many languages a guttural, and *l* a dental, we may place in the same category of wavering pronunciation the confusion between these two letters, *r* and *l*, a confusion remarked not only in the Polynesian, but likewise in many of the African languages. Speaking of the Setchuana dialects, Dr. Bleek remarks: 'One is justified to consider *r* in these dialects as a sort of floating letter, and rather intermediate between *l* and *r*, than a decided *r* sound.'[3]

[1] Chamisso, *Works*, vol. ii. p. 76.
[2] Buschmann, *Iles Marq.* p. 103; Pott, *Etym. Forsch.* ii. p. 138.
[3] Mr. Powell, in his *Introduction to the study of Indian Language*

It is this absence of differentiation in certain consonants which seems to me to account for several so-called phonetic changes in dialects of the same language, which otherwise would defy all principles of phonetics. We are told that the missionaries in Hawaii were so perplexed as to whether they ought to write *k* or *t*, that at last they had to appeal to the king. The king decided in favour of *k*, and after that his own name, which Ellis, in his *Polynesian Researches*, wrote *Tamehameha*, was changed into *Kamehameha*, and has remained so ever since.

Is it not clear, therefore, that if during a period when the pronunciation still wavered between *k* and *t*, certain families had migrated from Hawaii to other islands, two dialects might have arisen in time, the one without any *k*'s, the other without any *t*'s? And yet it would be quite wrong to say that *k* had become *t*, or *t* had become *k*. And is it not equally wrong therefore to say that because we find in Greek *tettares*, and in Sanskrit *katvar*, in Latin *quatuor*, therefore Greek *t* was changed into Sanskrit *k*, and into Latin *qu*, or *vice versa*?

I feel convinced therefore that the key to much of the phonetic diversity which we observe between Sanskrit, Greek, Latin, and the other Aryan languages must be looked for in a previous state of language, in which, as in the Polynesian dialects, the principal points of consonantal contact were not yet felt as definitely separated from each other.

(second edition, Washington, 1880, p. 12) has fully treated of these sounds, which he calls *synthetic sounds*, and has pointed out their importance for phonological studies.

There is nothing to show that in *thermós*, Greek ever had an initial guttural, and to say that Sanskrit gh became Greek *th*, is in reality saying what is impossible. No Sanskrit letter can become a Greek letter; in fact, no letter ever *becomes*. People pronounce letters, and they either pronounce them properly or improperly. If the Greeks pronounced *th* in *thermós* properly, without any intention of pronouncing *gh*, then the *th*, instead of *gh*, requires another explanation, and I cannot find a better one than the one just suggested. When we find three dialects, like Sanskrit, Greek, and Latin, exhibiting the same word with guttural, dental, and labial initials, we gain but little if we say that Greek is a modification of Sanskrit, or Latin of Greek. No Greek ever took the Sanskrit word and modified it; but all three received it from a common source, in which its articulation was as yet so vague as easily to lend itself to these various interpretations in different colonies. Though we do not find in any Greek dialect the same mixture of guttural and dental contact which exists in the Hawaian language, it is by no means uncommon to find one Greek dialect preferring the dental,[1] when another prefers the guttural; and I do not see how this fact can be explained, unless we assume that in an earlier or, as it is now called, a prehistoric state of the Greek language the pronunciation fluctuated or hesitated between *k* and *t*.

I should prefer this explanation likewise in many cases when we see in cognate languages or dialects

[1] Doric, *πόκα, ὄκα, ἄλλοκα*, for *πότε, ὅτε, ἄλλοτε*; Doric, *δνόφος*; Æolic, *γνόφος*; Doric, *δᾶ* for *γῆ*.

an interchange between surd, sonant, and aspirated letters. To an educated ear these three varieties are not less marked than the three different points of contact in *k*, *t*, and *p*. It is not only in such highly cultivated languages as Sanskrit and Greek that these three grades, tenuis, media, and aspirate, are used for the differentiation of words. In the Dacota (Sioux) language, as the Rev. S. R. Riggs informs us, a clear distinction is made between *b*, *p*, and an emphatic *p*. The same applies to dental, guttural, and palatal letters. Thus *be* is to hatch, *pe* is sharp, and *p'e* is close. *Da* is to ask, *ta* moon, *t'a* to die. Simply to say that *k* becomes *kh*, and *kh* becomes *g*, seems again a defiance of all principles of phonetics; unless an explanation can be given how and why such successive changes should take place.

The Rev. W. Ridley, in his grammatical outlines of the Kamilaroi, Dippil, and Turrinbad languages, spoken by Australian aborigines ('New South Wales,' 1866, p. 4), remarks: 'They habitually soften the sound of their mutes, so that it is difficult to determine, in many instances, whether the consonant sound is *b* or *p*, *d* or *t*, *g* or *k*.' Mr. Curr, in his instructive work on the 'Australian Race' (Melbourne, 1886), tells us that the sounds represented by our letters *f*, *s*, *x*, and *z* do not exist in the languages of Australia; *j*, *q*, and *v* are of rare occurrence, and probably absent in many. The sound of *ch* is absent in some, but abounds in others. The same applies to *r* as an initial, while as a final it is rolled out in some districts with great force and harshness. It is then so different from our own *r*, that aboriginal names *Yarr* and *Walgerr* have been

written down as *Yass* and *Walgett*. 'In taking down vocabularies from the Blacks,' he continues, 'it is often difficult to decide whether certain sounds should be expressed by *b* or *p*, *d* or *t*, *k* or *g*, nor is it possible, as far as my experience goes, to make the Blacks aware of these distinctions of sound.'[1] 'No Polynesian dialect,' says Mr. Hale, 'makes any distinction between the sounds of *b* and *p*, *d* and *t*, *g* and *k*, *l* and *r*, or *v* and *w*.'[2] This is not a case, therefore, of phonetic corruption, of allowing an established *k*, *t*, *p* to sink down to *g*, *d*, *b*, or of simply suppressing the voice that was originally heard in *g*, *d*, *b*. It is a case analogous to what the Rev. John Batchelor observed among the Ainos.[3] '*T*,' he writes, 'is pronounced neither like *t* nor *d* in English, but as something between the two. The same may be said of *p* and *b*.'

If colonies started to-morrow from any of these centres of language, what took place thousands of years ago, when the Hindus, Greeks, and Romans left their common home, would take place again. One colony would elaborate the indistinct, half-guttural, half-dental articulation of their ancestors into a pure guttural; another into a pure dental; a third into a labial. One settlement would fix on the sonant, another on the surd consonants. The Romans who settled in Dacia, where their language still lives in the modern Wallachian, are said to have changed every *qu*, if followed by *a*, into *p*. They pronounce

[1] See also *Australian Vocabulary*, by G. F. Moore, 1843, p. x; Lawes, *Grammar of Motu Language*, p. vii.

[2] Hale, *Polynesian Grammar*, p. 233.

[3] *Ainu-English-Japanese Dictionary and Grammar*, by the Rev. John Batchelor; Tokyo, 1889.

aqua as *apa*; *equa* as *epa*.[1] Are we to suppose that the Italian colonists of Dacia said *aqua* as long as they stayed on Italian soil, and changed *aqua* into *apa* as soon as they reached the Danube? Or may we not rather appeal to the fragments of the ancient dialects of Italy, as preserved in the Oscan and Umbrian inscriptions, which show that in different parts of Italy certain words were from the beginning fixed differently, thus justifying the assumption that the legions which settled in Dacia came from localities in which these Latin *qu*'s had always been pronounced as *p*'s?[2]

It will, no doubt, sound to many classical scholars almost like blasphemy to explain the phenomena in the language of Homer and Horace, by supposing for both a background like that of the Polynesian dialects of the present day. Some comparative philologists, too, will rather admit what is called a degeneracy of gutturals sinking down to dentals and labials, than look for analogies to the Sandwich Islands. Yet the most important point is, that we should have clear conceptions of the words we are using, and I confess that I cannot conceive how in the word for *four* a real *k* in Sanskrit could become *t* in Greek, or *t* in

[1] The Macedonian (Kutzo-Wallachian) changes *pectus* into *keptu*, *pectine* into *keptine*. Cf. Pott, *Etym. F.* ii. 49. Of the Tegeza dialects, the northern entirely drops the *p*; the southern, in all grammatical terminations, either elide it or change it into *k*. Cf. Sir G. Grey's Library, i. p. 159. In Sicilian dialects *fiore* and *fiume* appear as *ciore* and *ciume*. *Academy*, 1871, p. 147. Some of these changes have been rightly explained as mere acoustic illusions, and as cases of *metathesis*; see Paul, *Principien der Sprachgeschichte*, p. 59.

[2] The Oscans said *pomtis* instead of *quinque*, &c. See Mommsen, *Unteritalische Dialecte*, p. 289.

Greek degenerate into *f* in Gothic. I do not doubt the phonetic possibility,—for what is impossible in Phonetics? I doubt the historical reality of such changes. I can conceive different definite sounds arising out of one indefinite sound; and those who have visited the Polynesian islands describe this fact as taking place at the present day. What then takes place to-day, can have taken place thousands of years ago; and if we see the same word beginning in Sanskrit, Greek, and Latin, with *k*, *t*, or *p*, it would be sheer timidity to shrink from the conclusion that there was a time in which that word was pronounced less distinctly; in short, in the same manner as the *k* and *t* in Hawaian.

I am glad to say that this distinction between Dialectic Change and Phonetic Corruption, and the account given by me of the nature of Dialectic Change many years ago, though strongly opposed at first, has been accepted by some of the most thoughtful students of language. I need only mention Mr. Horatio Hale, in his article 'On some doubtful or intermediate Articulations' in the *Journal of the Anthropological Institute*, 1885, p. 233, and M. Maspero, in his essay on the 'Personal Pronouns in Egyptian' in the *Mémoires de la Société de Linguistique*, Paris, 1872. Referring to the occurrence of *k* and *t* in these pronouns, he writes:—

'La solution la plus raisonnable de ce problème me paraît être celle que M. Max Müller propose, afin d'expliquer la préférence que certains dialectes indo-européens accordent à la dentale, dans la plupart des cas où d'autres dialectes de la même famille admettent la gutturale. Au lieu de supposer

une dégénérescence organique de l'articulation primitive, qui aurait permis à la gutturale de s'affaiblir en dentale, il faudrait supposer que l'articulation du pronon de la 2e personne flottait primitivement entre K et T. La prononciation ne séparait nettement la gutturale de la dentale que pour attribuer á chacune d'elles le rôle special que nous lui connaissons.'

Phonetic Idiosyncrasies.

It must be conceded that single individuals or single families may sometimes influence the fates of a language. Personal defects in pronunciation, at first congenital, may spread by imitation, and in that case it would sometimes become very difficult to decide whether the effect should be treated as coming under the category of Phonetic Decay or of Dialectic Growth. We know that many people cannot pronounce *l*, and they say *r* or even *n* instead. They say *grass* or *crowds* instead of *glass* and *clouds*. I have heard *ritten* instead of *little*. Others change *r* to *d*, and say *dound* instead of *round*. Others change *l* to *d*, and say *dong* for *long*. The defects of infantine pronunciation also must not be forgotten, and we know how long some children will say *tat* for *cat*, *tiss* for *kiss*, &c.

It cannot be denied that all this may tell and produce phonetic changes, due, not so much to muscular laziness as to muscular inaptitude.

The Rev. W. G. Lawes tells us, in the second edition of his Grammar and Vocabulary of the Language spoken by the Motu Tribe (New Guinea), Sydney, 1888, that when he first went to Niue or Savage Island, the old men pronounced *t* before *i* and *e* as *t*, the children as *ts*, while, at a later visit, this infantine *ts* had become the general pronunciation.

It should, however, be remembered, that in all these cases we can tell what is primitive, and what is recent, while we have no right to say that *t* in Greek *tessares* is recent, simply because we find an initial guttural or labial in other Aryan languages. Even the fact that in this case the guttural is found in a larger number of Aryan languages than the dental, proves nothing as to its being more primitive than the dental.

If an individual, or a family, or a tribe cannot pronounce a certain letter, or imagines it cannot pronounce it naturally, nothing remains but to substitute some other letter, as nearly allied to it as possible. The Romans, for instance, were by nature destitute of aspirated consonants. They had neither *kh*, *th*, *ph*, nor *gh*, *dh*, *bh*. There is no excuse whatever for supposing that they originally possessed these letters, and that they exchanged them afterwards for others. If phonetic experts can prove that the letters *h*, *g*, *d*, *f*, and *b*, which we find in Latin when in Sanskrit we find *gh*, *dh*, *bh*, in Greek *ch*, *th*, and *ph*, require less effort, well and good. Only it does not follow that the Romans, or their most distant ancestors, ever made that effort and failed. As little as we can prove that the Greeks ever said χερμός for θερμός, because the Sanskrit has *gharmás*, can we postulate that the Romans ever said *thormus*, because the Greeks said θερμός. These changes are due to dialectic variety, not to phonetic decay.

These idiosyncrasies have to be carefully studied, for each language has its own, and it would by no means follow that because a Latin *f* or even *b* corresponds to

a Sanskrit dh, therefore every *dh* in every language may lapse into *f* or *b*.

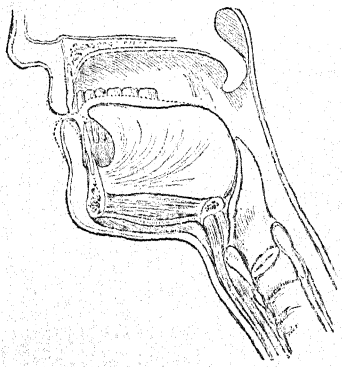
Greek has a strong objection to words ending in consonants; in fact, it allows but three consonants, and all of them *hēmíphōna*, to be heard as finals. We only find *n*, *r*, and *s*, seldom *k*, at the end of Greek words. The Roman had no such scruples. His words end with a guttural tenuis, such as *hic*, *nunc*; with a dental tenuis, such as *sunt*, *est*; and he only avoids a final labial tenuis as not melodious. We can hardly imagine Virgil, in his hexameters, uttering such words as *lump*, *trump*, or *stump*. Such tendencies or dispositions, peculiar to each nation, must exercise considerable influence on the phonetic structure of a language, particularly if we consider that in the Aryan family the grammatical lifeblood throbs chiefly in the final letters.

Th and F.

We know that *th* in English is a perfectly easy and legitimate sound. Its pronunciation comes quite natural to an Englishman. But it requires a considerable effort on the part of most foreigners. It probably did so on the part of the Romans, when trying to speak Anglo-Saxon. Hence it happened that instead of *th* we sometimes find *f*, the dental instead of the labial aspirate. At first sight, such a change may seem very violent. I remember well, when Burnouf pointed out that the modern Persian name *Feridun* was a corruption of the Zend *Thraêtona*, how several scholars doubted the possibility of such a change. But we have only to look at the diagrams of *th* and *f*

to convince ourselves that the slightest movement of the lower lip towards the upper teeth would change the sound of *th* into *f*.[1] Children sometimes begin with pronouncing *f* instead of *th*, nay it is often difficult to distinguish their *f*'s and *th*'s. In vulgar English, '*nothing*' sounds sometimes like '*nuffing*,' and '*had another*' is made to rhyme with '*did not love her*.'[2] In Russian we know that the Greek θ appears as *f*, e.g. *Feodor* instead of *Theodor*.

Fig. 26.



th and f.
(the dotted outline is th.)

Now here we have clearly a case of phonetic corruption. *Th* is right, *f* is wrong. *Th* came first, *f* came afterwards. But this corruption is not due to economy of muscular exertion, but to phonetic idiosyncrasies, that is, to habits and peculiarities on the part of foreigners who were forced by external circumstances to adopt a foreign language. Not being able to pronounce a sound which was strange to their buccal

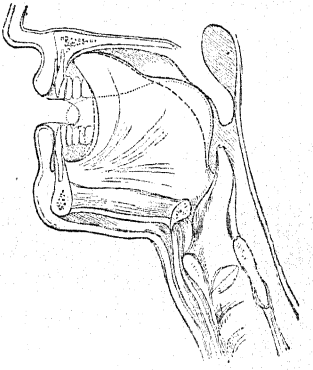
[1] See M. M., *On Veda and Zendavesta*, p. 32. Arendt, *Beiträge zur vergleichenden Sprachforschung*, i. p. 425.

[2] 'On what principle is it that the Yorkshireman travelling between Huddersfield and Saddleworth reads the name of *Slaithwaite* station as *Slawit*, or that the *Wriothesley* family dwindles in the public mouth into the insignificance of *Rockley*?' *London Quarterly*, Oct. 1864, p. 209. Bunyan's rhymes prove that he must have pronounced *daughter* like *dafter*; see Earle, *Philology of the English Tongue*, p. 127.

organs, they took what lawyers call the *ci-près*, the nearest approach.

It is generally easy therefore to represent the process of this kind of phonetic corruption by anatomical diagrams, showing the natural transition from one position of the vocal organs to the other. Thus it can be clearly perceived from the following diagram,[1] how the Latin *clamare* requires complete contact between the root of the tongue and the soft palate, which contact is merged by sudden transition into the dental position of the tongue with a vibration of its lateral edges. In Italian this lateral vibration of the tongue is dropt, or rather is replaced by the slightest possible approach of the tongue towards the palate, which follows almost involuntarily on the opening of the guttural contact, producing *chiamare*, instead of *clamare*. The Spaniard slurs over the initial guttural contact altogether; he thinks he has pronounced it, though his tongue has never risen, and he glides at once into the *l* vibration, the opening of which is followed by the same mouillé sound which we observed in Italian.

Fig. 27.



Clamare, chiamare, llamar.

[1] This diagram was drawn by Professor Richard Owen.

K and T.

In some cases it is, no doubt, difficult to say why one letter should seem easier to pronounce than another. For instance, when a language possesses both the *k* and the *t*, it is difficult to see why in some words *t* should be changed into *k*. This case, however, is quite different from that of the indifferentiated letters of the Polynesian languages which we considered before. All we can say in this case is that to a certain class of people, the *k* contact must have appeared more natural, and that others imitated their peculiarity. The fact itself, however, cannot be doubted. In Canada the lower classes habitually pronounce *t* as *k*, saying *mékier* and *moikié* for *métier* and *moitié*.[1] This cannot be due to the fact that in Canada French was a foreign language. For at home also the French language underwent the same corruption, chiefly among the lower classes. Thus Molière in *Le Médecin malgré lui*, makes Jaqueline say *hériquié* instead of *héritier*. In the same play *quarquié* occurs for *quartier*, *amiquié* for *amitié*. M. Agnel, in his *Observations sur la prononciation et le langage rustique des environs de Paris*, pp. 11, 28, testifies to the existence of the same corruption among the peasants near Paris and Havre, where *charkier* may be heard for *charretier*, *abricokier* for *abricotier*, *crapu* for *trapu*. In one case this corruption has affected even the classical French, for there seems to be a unanimous opinion that *craindre* stands for Latin *tremere*.[2]

[1] *Student's Manual of the English Language* (Marsh and Smith), p. 349.

[2] See also Metiviers, *Dictionnaire Franco-normand*, 1870, p. 5. The

In all these cases, however, it should be remembered that the *t* was there at first, and that its change to *k* was not due to differentiation, but to the phonetic idiosyncrasies of certain individuals or certain classes.

Lastly, there are some cases where it seems very doubtful whether the ear of some of our phonetic authorities may not be as much at fault as the pronunciation of certain speakers. While in the cases before mentioned a real *t* dwindled down to *k*, we are told by Webster, in the Introduction to his English Dictionary, that in English the letters *cl* are often pronounced like *tl*, e.g. *tlear* and *tlean* for *clear* and *clean*, and *gl* like *dl*, *dlory* for *glory*. Webster is, no doubt, a great authority, still I doubt the accuracy of this observation, at least among educated people.

Cause of Phonetic Decay.

We now come to the question, What is the cause of Phonetic Decay? For many years it was the custom among comparative philologists, when treating of phonetic changes, to say that *s* has become *r*, or that *m* has been dropt, *s* has been elided, *a* and *i* have been contracted, *t* softened, *d* hardened, &c. The question why letters should thus 'change or become' was never asked. Curtius comprehended all these processes under the name of *Verwitterung*, a metaphorical expression taken from the decay which is produced by storm and weather, as if letters were things by themselves, exposed to external influences,

King of Siam when speaking of *maitrî*, the Buddhist word for love, mentioned that some Sanskrit scholars pronounced it *maikree*; see Mrs. A. H. Leonowens, *The Governess at the Siamese Court*, 1870, p. 197.

and liable to the ravages of time. I was the first, I believe, who ventured to ascribe phonetic change to its *vera causa*, namely, to a natural desire of economising muscular exertion, to a *vis inertiae*, or, in simpler language, to human laziness.

Every letter requires more or less of muscular exertion. There is a manly, sharp, and definite articulation, and there is an effeminate, vague, and indistinct utterance. The one requires a will, the other is a mere *laisser-aller*. The chief cause of phonetic degeneracy in language is when people shrink from the effort of articulating each consonant and vowel; when they attempt to economise their breath and their muscular energy, when they lay considerable stress on one syllable, and in consequence slur over the rest. It is perfectly true that, for practical purposes, the shorter and easier a word, the better, as long as it conveys its meaning distinctly. Most Greek and Latin words are twice as long as they need be, and I do not mean to find fault with the Romanic nations, for having simplified the labour of speaking. If the provincial of Gaul came to say *père* instead of *pater*, it was simply because he shrank from the trouble of lifting his tongue, and pushing it against his teeth. *Père* required less strain on the will, and less expenditure of breath: hence it took the place of *pâtrem*. So in English, *night* requires less expenditure of muscular energy than *nächt* or *Nacht*, as pronounced in Scotland and in Germany; and hence, as people always buy in the cheapest market, *night* found more customers than the more expensive terms. Nearly all the

changes that have taken place in the transition from Anglo-Saxon to modern English belong to this class. Thus :—

A.S.	hafoc	became	hawk		
„	dæg	„	day		
„	fæger	„	fair		
„	secgan	„	say		
„	sprecan	„	speak		
„	folgian	„	follow		
„	morgen	„	morrow		
„	cyning	„	king		
„	woruld	„	world[1]		
A.S.	nâwiht	became	nought		
„	hlâford[2]	„	lord		
„	hlæfdige	„	lady		
„	sælig	„	silly		
„	bûton	„	but		
„	hêafod	„	head		
„	nose-þyrel	„	nostril		
„	wîf-man	„	woman		
„	Eofor-wic	„	York		

The same took place in Latin or French words naturalised in English. Thus :—

Scutarius	escuier	=	squire
Historia	histoire	=	story
Egyptianus	Egyptian	=	gipsy
Extraneus	estrangier	=	stranger
Hydropsis	—	=	dropsy
Capitulum	chapitre	=	chapter
Dominicella	demoiselle	=	damsel
Paralysis	paralysie	=	palsy
Sacristanus	sacristain	=	sexton

The best illustrations of the progress of phonetic decay are no doubt to be found in modern languages, such as the Romanic dialects in Europe, and the Prâkrit dialects in India. But the same process was going on in ancient languages also. Thus the Latin *quintus* stands for *quinctus*, just as Ital. *santo* stands

[1] Old High-German *wër-alt* = seculum, i. e. Menschenalter. Shakespeare in *The Merry Wives of Windsor*, iv. 4, 36, speaks of 'the superstitious idle-headed *eld*.' Cf. wërwulf, lycanthropus, werewolf, währwolf, *loup-garou(l)*; were-gild, mann-geld, ransom. Cf. Grimm, *Deutsche Grammatik*, ii. 480.

[2] See *Lectures on the Science of Language*, vol. i. p. 186.

for *sanctus*. Umbrian *mestru* shows phonetic corruption more advanced than Italian *maestro* for *magister*. Umbrian *deitu* and *feitu* for *dicito* and *facito* represent but the first step which in the end led to Italian *dite* and *fatte*.

There are, no doubt, some words in English which, if compared with their originals in Anglo-Saxon, seem to have added to their bulk, and thus to violate the general principle of simplification. Thus A.S. *thunor* is in English *thunder*. Yet here, too, the change is due to laziness. It requires more exertion to withdraw the tongue from the teeth without allowing the opening of the dental contact to be heard than to slur from *n* on to *d*, and then only to the following vowel. The same expedient was found out by other languages. Thus, the Greek preferred to say *ándres*, instead of *áneres*; *ambrosia*, instead of *amrosia*.[1] The French *genre* is more difficult to pronounce than *gendre*; hence the English *gender*, with its anomalous *d*. Similar instances in English are, *to slumber* = A.S. *slumerian*; *embers* = A.S. *æmyrian*; *humble* = *humilis*.

Euphony.

It was formerly the custom of grammarians to ascribe these and similar changes to *euphony*, or a desire to make words agreeable to the ear, the real object being to make them agreeable to the mouth—

[1] In Greek μ cannot stand before λ and ρ, nor λ before ρ, nor ν before any liquid. Hence $\mu\epsilon\sigma\eta\mu(\epsilon)\rho\acute{\iota}\alpha = \mu\epsilon\sigma\eta\mu\beta\rho\acute{\iota}\alpha$; $\gamma\alpha\mu\rho\acute{o}\varsigma = \gamma\alpha\mu\beta\rho\acute{o}\varsigma$; $\mathring{\eta}\mu\alpha\rho\tau o\nu = \mathring{\eta}\mu\beta\rho o\tau o\nu$; $\mu o\rho\tau\acute{o}\varsigma = \beta\rho o\tau\acute{o}\varsigma$. See Mehlhorn, *Griechische Grammatik*, p. 54. In Tamil *nr* is pronounced *ndr*. Caldwell, *Dravidian Grammar*, p. 138.

that is to say, to save a certain amount of muscular effort. Greek, for instance, it was said, abhors two aspirates at the beginning of two successive syllables, because the repeated aspiration would offend delicate ears. If a verb in Greek, beginning with an aspirate, has to be reduplicated, the first syllable takes the tenuis instead of the aspirate. Thus *thē* in Greek forms *títhēmi*, as dhâ in Sanskrit dadhâmi. If this were done simply for the sake of euphony, it would be difficult to account for many words in Greek far more inharmonious than *thíthēmi*. Such words as χθών, *chthṓn*, earth, φθόγγος, *phthóggos*, vowel, beginning with two aspirates, were surely more objectionable than *thíthēmi* would have been. There is nothing to offend our ears in the Latin *fefelli*,[1] from *fallo*, or in the Gothic reduplicated perfect *haihald*, from *haldan*, which in English is contracted into *held*, the A.S. being *heóld*, instead of *hehold*; or even in the Gothic *faifahum*, we caught, from *fahan*, to catch.[2] There is nothing fearful in the sound of *fearful*, though both syllables begin with an *f*. But if it be objected that

[1] It should be remarked that the Latin *f*, though not an aspirated tenuis like φ, but a labial flatus, seems to have had a very harsh sound. Quintilian, when regretting the absence in Latin of Greek φ and υ, says, 'Quæ si nostris literis (*f* et *u*) scribantur, surdum quiddam et barbarum efficient, et velut in locum earum succedent tristes et horridæ quibus Græcia caret. Nam et illa quæ est sexta nostratium (*f*) pæne non humana voce, vel omnino non voce potius, inter discrimina dentium efflanda est; quæ etiam cum vocalem proxima accipit, quassa quodammodo utique quoties aliquam consonantem frangit, ut in hoc ipso frangit, multo fit horridior' (xii. 10).—Cf. Bindseil, p. 287.

[2]

Pres.	Perf. Sing.	Perf. Plur.	Part. Perf. Pass.
Goth. haita	haihait	haihaitum	haitan
A.S. hâtan	hêht (hêt)	hêton	hâten
O.E. hate	hight	highten	hoten, hoot, hight.

all these letters in Latin and Gothic are mere breathings, while the Greek χ, θ, ϕ are real aspirates, we have in German such words as *Pfropfenzieher*, which to German ears is anything but an unpleasant sound. I believe the real cause of this so-called abhorrence in Greek is nothing but laziness. An aspirate requires great effort, though we are hardly aware of it, beginning from the abdominal muscles and ending in the muscles that open the glottis to its widest extent. It was in order to economise this muscular energy that the tenuis was substituted for the aspirate, though, of course, in cases only where it could be done without destroying the significancy of language. Euphony is a very vague and unscientific term. Each nation considers its own language, each tribe its own dialect, euphonic; and there are but few languages which please our ear, when heard for the first time. To my ear *knight* does not sound better than *Knecht*, though it may do so to an English ear; but there can be no doubt that it requires less effort to pronounce the English *knight* than the German *Knecht*.

A desire for euphony seems to me in most cases but a disguised desire for a saving of muscular exertion, what is disagreeable to the ear being disagreeable to the voice also. There is no objection, however, to admit euphony as one of the less direct causes of phonetic change. Thus the recurrence of the same letter in two successive syllables is often avoided, possibly for the sake of euphony, possibly for the sake of ease. There can be no doubt, for instance, that the two Latin derivatives *aris* and *alis* are one and the same. If we derive *Saturnalis* from *Saturnus*, and *secularis*

from *seculum*, *normalis* from *norma*, *regularis* from *regula*, *astralis* from *astrum*, *stellaris* from *stella*, it is clear that the suffix in all is the same. Yet there is some kind of rule which determines whether *alis* or *aris* is to be preferred. If the body of the words contains an *l*, the Roman preferred the termination *aris*; hence *secularis*, *regularis*, *stellaris*, the only exceptions being that *l* is preserved (1) when there is also an *r* in the body of the word, and this *r* closer to the termination than the *l*; hence *pluralis*, *lateralis*; (2) when the *l* forms part of a compound consonant, as *fluvialis*, *glacialis*.[1] The same explanation must probably be given for *coeruleus* from *coelum*, for *kephalargia* and *lethargia* by the side of *otalgia*.

All these are changes dependent on a dislike of the repetition of the same letter. But there are other changes of *l* into *r* which it would be difficult to assign to euphony only, e.g. *colonel*, pronounced *curnel* (Old French, *coronel*; Spanish *coronel*); *rossignole* = *lusciniola*.[2] The Wallachian *dor*, desire, is supposed to be the same word as the Italian *duolo*, pain. In *apôtre*, *chapitre*, *esclandre*, the same change of *l* into *r* has taken place.[3]

On the other hand, *r* appears as *l* in Italian *albero* = *arbor*; *celebro* = *cerebrum*; *mercoledì*, *Mercurii dies*; *pellegrino*, pilgrim = *peregrinus*.[4]

If certain scholars prefer to ascribe the change between two vowels of *s* into *r* in Latin, and the

[1] Cf. Pott, *Etymologische Forschungen*, 1st edit. ii. 97, where some exceptions, such as *legalis*, *letalis*, are explained.

[2] See Corssen, *Kritische Nachträge*, p. 36.

[3] Diez, *Vergleichende Grammatik*, i. p. 189. [4] Diez, *l. c.* p. 209.

dropping of *s* in Greek under the same circumstances, to a desire for euphony rather than to an economy of muscular energy, I see no objection, if only it is clearly understood that such changes are never intentional, but simply mechanical. To us it may seem as easy to say *genesis* as *generis*, γένεσος as γένεος and γένους. But we must remember that the nerves and muscles employed in speaking may assume certain habits and tendencies in each individual by imitation, and by inheritance in whole families and nations, and that what is easy and natural for pronunciation must be determined, in each case, by such habits and tendencies.

Phonetic Habits.

Though I have lived much longer in England than in Germany, and spoken more English than German, yet even now, after lecturing for one hour in English, the muscles of my throat feel tired, my throat becomes heated and dry, while in Germany I could lecture for two and three hours without any such feeling. What does this show? It shows that with me the combination of sounds peculiar to English requires a greater muscular effort, a greater exertion of will, than the usual run of sounds in German; but it does not prove that in themselves English sounds are more difficult to pronounce than German. Habit, whether self-formed or inherited, forms here as elsewhere 'lines of least resistance,' and these lines of least resistance determine what seems easy or difficult to pronounce in every language.

Double Consonants.

We have still to treat of one other cause of Phonetic Decay, namely Double Consonants. Certain consonants, if they come together without intervening vowels, are troublesome to pronounce, particularly at the beginning of words. Hence they are very liable to phonetic decay, either by being assimilated, or by one of these being dropt. But if it is the tendency of most languages to avoid or soften these troublesome combinations, we must not shirk the question, how it ever came to pass that such troublesome groups were framed and sanctioned. Strange as it may seem, I believe that these troublesome combinations of consonants were likewise the result of phonetic corruption, i.e. of muscular relaxation. Most of them owe their origin to contraction, that is to say, to an attempt to pronounce two syllables as one, and thus to save time and breath, though not without paying for it by an increased consonantal effort.

It has been argued, with some plausibility, that language in its original state, of which, unfortunately, we know next to nothing, eschewed the contact of two or more consonants. There are languages still in existence in which each syllable consists either of a vowel, or of a vowel preceded by one consonant only, and in which no syllable ever ends in a consonant. This is the case, for instance, in the Polynesian languages. A Hawaian finds it almost impossible to pronounce two consonants together, and in learning English he has likewise the greatest difficulty in pronouncing *cab*, or any other word ending in a consonant. *Cab*, as pro-

nounced by a Hawaian, becomes *caba*. Mr. Hale, in his excellent 'Polynesian Grammar,'[1] says:—

> In all the Polynesian dialects every syllable must terminate in a vowel; and two consonants are never heard without a vowel between them. This rule admits of no exception whatever, and it is chiefly to this peculiarity that the softness of these languages is to be attributed. The longest syllables have only three letters, a consonant and a diphthong, and many syllables consist of a single vowel.

There are other languages besides the Polynesian, which never admit closed syllables, i. e. syllables ending in consonants. All syllables in Chinese are open or nasal,[2] yet it is by no means certain whether the final consonants which have been pointed out in the vulgar dialects of China are to be considered as later additions, or whether they represent a more primitive state of the Chinese language.

In South Africa all the members of the great family of speech, called by Dr. Bleek the Bâ-ntu family, agree in general with regard to the simplicity of their syllables. Their syllables can begin with only one consonant, including, however, consonantal diphthongs, nasalised consonants, and combinations of clicks with other consonants reckoned for this purpose as substantially simple. The semi-vowel *w*, too, may intervene between a consonant and a following vowel. No syllable, as a general rule, in these South African languages, which extend north beyond the equator, can end in a consonant, but only in vowels,

se
gua

[1] Hale, *l. c.* p. 234.

[2] Endlicher, *Chinesische Grammatik*, p. 112.

whether pure or nasal.[1] The exceptions serve but to prove the rule, for they are confined to cases where by the falling off of the generally extremely short and almost indistinct terminal vowel, an approach has been made to consonantal endings.[2]

In the other family of South African speech, the Hottentot, compound consonants are equally eschewed at the beginning of words. It is clear, too, that all radical words ended there originally in vowels, and that the final consonants are entirely due to grammatical terminations, such as *p*, *s*, *ts*, and *r*. By the frequent use of these suffixes the final vowel disappeared, but that it was there originally has been proved with sufficient evidence.[3]

The permanent and by no means accidental or individual character of these phonetic peculiarities is best seen in the treatment of foreign words. Practice will no doubt overcome the difficulty which a Hawaian feels in pronouncing two consonants together, or in ending his words by consonantal checks, and I have myself heard a Mohawk articulating his labial letters with perfect accuracy. Yet if we examine the foreign words adopted by the people into their own vocabulary, we shall easily see how they have all been placed on a bed of Procrustes. In the Ewe, a West-African language, *school* is pronounced *suku*, the German *Fenster* (window) *fesre*.[4]

[1] Bleek, *Comparative Grammar*, § 252; Appleyard, *Kafir Language*, p. 89.

[2] Bleek, *Comparative Grammar*, § 257; Hahn, *Herero Grammar*, § 3.

[3] Bleek, *Comparative Grammar*, § 257–60.

[4] Pott, *Etymologische Forschungen*, ii. 56.

In the Kafir language we find bapitizesha = to baptize
" " igolide = gold
" " inkamela = camel
" " ibere = bear
" " umperisite = priest
" " ikerike = kirk
" " umposile = apostle
" " isugile = sugar
" " ama-Ngezi = English[1]

If we look to the Finnish and the whole Uralic class of the Northern Turanian languages, we meet with the same disinclination to admit double consonants at the beginning, or any consonants whatever at the end of words. The German *Glas* is written *lasi* in Finnish. The Swedish *smak* is changed into *maku*, *stor* into *suuri*, *strand* into *ranta*. No genuine Finnish word begins with a double consonant, for the assibilated and softened consonants, which are spelt as double letters, were originally simple sounds. This applies equally to the languages of the Esths, Ostiakes, Hungarians, and Syrjänes, though, through their intercourse with Aryan nations, these tribes, and even the Fins, succeeded in mastering such difficult groups as *pr*, *sp*, *st*, *str*, &c. The Lap, the Mordvinian, and Tcheremissian dialects show, even in words which are of native growth, though absent in the cognate dialects, initial consonantal groups such as *kr*, *ps*, *st*, &c.; but such groups are always the result of secondary formation, as has been fully proved by Professor Boller.[2] The same careful scholar has shown that

[1] Appleyard, *Kafir Language*, p. 89.

[2] Boller, *Die Finnischen Sprachen*, p. 19. Pott, *l. c.* pp. 40 and 56. See also Boehtlingk, *Ueber die Sprache der Jakuten*, § 152. 'The Turko-

the Finnish, though preferring syllables ending in vowels, has admitted *n*, *s*, *l*, *r*, and even *t*, as final consonants. The Esthonian, Lapponian, Mordvinian, Ostiakian, and Hungarian, by dropping or weakening their final and unaccented vowels, have acquired a large number of words ending in simple and double consonants; but throughout the Uralic class, wherever we can trace the radical elements of language, we always find simple consonants and final vowels.

We arrive at the same result, if we examine the syllabic structure of the Dravidian class of the South Turanian languages, the Tamil, Telugu, Canarese, Malayâlam, &c. The Rev. R. Caldwell, in his excellent work, the 'Dravidian Comparative Grammar,' has treated this subject with the same care as Professor Boller in his Essay on the Finnish languages, and we have only to place these accounts by the side of each other, in order to perceive the most extraordinary coincidences.

The chief peculiarity of Dravidian syllabation is its extreme simplicity and dislike of compound or concurrent consonants; and this peculiarity characterises the Tamil, the most early cultivated member of the family, in a more marked degree than any other Dravidian language.

In Telugu, Canarese, and Malayâlam, the great majority of Dravidian words, i.e. words which have not been derived from Sanskrit, or altered through Sanskrit influences, and in Tamil all words without exception, including even Sanskrit derivatives, are divided into syllables on the following plan. Double or treble consonants at the beginning of syllables, like 'str,' in 'strength,' are altogether inadmissible. At the beginning

Tataric languages, the Mongolian, and Finnish show a strong aversion to double consonants at the beginning of words.'

not only of the first syllable of every word, but also of every succeeding syllable, only one consonant is allowed. If in the middle of a word of several syllables, one syllable ends with a consonant and the succeeding one commences with another consonant, the concurrent consonants must be euphonically assimilated, or else a vowel must be inserted between them. At the conclusion of a word, double and treble consonants, like 'gth,' in 'strength,' are as inadmissible as at the beginning; and every word must terminate in Telugu and Canarese in a vowel; in Tamil, either in a vowel or in a single semivowel, as 'l,' or 'r,' or in a single nasal, as 'n,' or 'm.' It is obvious that this plan of syllabation is extremely unlike that of the Sanskrit.

Generally, 'i' is the vowel which is used for the purpose of separating inadmissible consonants, as appears from the manner in which Sanskrit derivatives are Tamilised. Sometimes 'u' is employed instead of 'i.' Thus the Sanskrit preposition 'pra' is changed into 'pira' in the compound derivatives, which have been borrowed by the Tamil; whilst 'K*rish*n*a*' becomes 'Kiru*tt*ina-n' ('*tt*' instead of 'sh'), or even 'Ki*tt*ina-n.' Even such soft conjunctions of consonants as the Sanskrit 'dya,' 'dva,' 'gya,' &c., are separated in Tamil into 'diya,' 'diva,' and 'giya.'[1]

The Semitic languages are quite free from words beginning with two consonants without an intermediate vowel or shewa. This is, in fact, considered by Ewald as one of the prominent characters of the Semitic family;[2] and if foreign words like *Plato* have to be naturalised in Arabic, the *p* has to be changed to *f*, for Arabic, as we saw, has no *p*, and an initial vowel must be added, thus changing *Platon* into *Iflatûn*.

It is hardly to be wondered at that evidence of this kind, which might be considerably increased, should

[1] Caldwell, *Dravidian Comparative Grammar*, p. 138.
[2] Ewald, *Gramm. Arabica*, i. p. 23; Pott, *Etym. Forsch.* ii. 66.

have induced speculative scholars to look upon the original elements of language as necessarily consisting of open syllables, of one consonant followed by one vowel, or of a single vowel. The fact that languages exist, in which this simple structure has been preserved, is certainly important, nor can it be denied, that out of such simple elements languages have been formed, gradually advancing, by a suppression of vowels, to a state of strong consonantal harshness. The Tcheremissian *śma*, mouth, if derived from a root *śu*, to speak, must originally have been *śuma*.

In the Aryan languages, the same process can easily be observed as producing the same effect, viz. double consonants, either at the beginning or at the end of words. It was in order to expedite the pronunciation of words that vowels were dropt, and consonants brought together: it was to facilitate the pronunciation of such words that one of the consonants was afterwards left out, and new vowels were added to render the pronunciation easier once more.

Thus, *to know* points back to Sk. *gñâ*, but this *gñâ*, the Lat. *gnô* in *gnôvi*, or *gnō* in Gr. *égnōn*, again points back to *ganâ*, contracted to *gñâ*. Many roots are formed by the same process, and they generally express a derivative idea. Thus *gan*, which means to create, to produce, and which we find in Sk. *ganas*, Gr. *génos*, genus, kin, is raised to *ganâ* and *gñâ*, in order to express the idea of being able to produce. If I am able to produce music, I know music; if I am able to produce ploughing, I know how to plough, I can plough; and hence the frequent running together of the two conceptions, I can and I know, *Ich kann*

and *Ich kenne, Je sais* and *Je peux*.[1] As from *gan* we have *gñâ*, so from man, to think (Sk. manas, Gr. *ménos*, mens, mind), we have mnâ, to learn by heart, Greek *mémnēmai*, I remember, *mimnéskō*. In modern pronunciation the *m* is dropt, and we pronounce *m-nemonics*. Again, we have in Sanskrit a root mlai, which means to fade; from it mlâna, faded, mlâni, fading. Now, whence this initial double consonant *ml*? The Sanskrit root mlai or mlâ is formed like *gñâ* and mnâ, from a simpler root mal or mar, which means to wear out, to decay. As *gan* became *gñâ*, so mar, mrâ. This mar is a very prolific root, of which more hereafter, and was chiefly used in the sense of decaying or dying, *morior*, *ἀμ(β)ρόσια*, Old Slav. *mrěti*, to die, Lith. *mirti*, to die.

These instances will suffice in order to show that in Sanskrit, too, and in the Aryan languages in general, the initial double consonants owe their existence to the same tendency which afterwards leads to their extinction. It was phonetic economy that reduced marâ to mrâ; it was phonetic economy that reduced mrâ to râ and lâ.

The double consonants being once there, the simplest process would seem to be to drop one of the two. This happens frequently, but by no means always. We see this process in English words such as *knight*, A. S. *cniht*; *knife*, A. S. *cnîf*; *knee*, A. S. *cnêo*; *to leap*, A. S. *hléapan*; *ring*, A. S. *hring*. We likewise observe it in Latin *natus* instead of *gnatus*, *nodus* instead of *gnodus*, English *knot*. We know

[1] Pott (*E. F.* ii. 291) compares *queo* and *scio*, tracing them to Sanskrit ki. See Benfey, *Kurze Sanskrit Grammatik*, § 62, note.

that the old Latin form of *locus* was *stlocus*,[1] thus pointing to root *stâ*, whence the German *Stelle*; we know that instead of *lis*, *litis*, quarrel, litigation, the ancient Romans pronounced *stlis*, which has been compared with German *streit*. In all these cases the first consonant or consonants were simply dropt.

Sometimes, however, a vowel is added again to facilitate the pronunciation. Many words in Latin begin with *sc*, *st*, *sp*. Some of these are found in Latin inscriptions of the fourth century after Christ spelt with an initial *i*: e.g. *in istatuam* (Orelli, 1,120, A.D. 375); *Ispiritus* (Mai, Coll. Vat. t. v. p. 446, 8).[2] It seems that the Celtic nations were unable to pronounce the initial *s* before a consonant, or at least that they disliked it.[3] The Spaniards, even when reading Latin, pronounce *estudium* for *studium*, *eschola* for *schola*.[4] Hence the constant addition of the initial vowel in the Western or chiefly Celtic

[1] Quintil. i. 4, 16.

[2] See Crecelius, in Hoefer's *Zeitschrift*, iv. 166; Corssen, *Aussprache*, p. i. p. 289.

[3] Richards, *Antiquæ Linguæ Britannicæ Thesaurus* (Bristol, 1753), as quoted by Pott, *E. F.* ii. 67, says (after letter S); 'No British word begins with *s*, when a consonant or *w* follows, without setting *y* before it; for we do not say Sgubor, snoden, &c., but Ysgubor, ysnoden. And when we borrow any words from another language which begin with an *s* and a consonant immediately following it, we prefix a *y* before such words, as from the Latin *schola*, ysgol; *spiritus*, yspryd; *scutum*, ysgwyd.'

[4] Tschudi, *Peru*, i. 176. Caldwell, *Dravidian Comparative Grammar*, p. 170: 'How perfectly in accordance with Tamil this is, is known to every European resident in Southern India, who has heard the natives speak of establishing an English *iskool*.' This *iskool* is as good as *establishing* for *stabilire*; or the Italian expressions, *con istudio*, *per istrada*, &c. 'Il en est de même des mots germaniques devenus français, ainsi: *stock*, estoc; *skarp*, escarpé; *skiff*, esquif, &c.'—Terrien Poncel, *Du Langage*, p. 64.

branch of the Romanic family; French *escabeau*, instead of Latin *scabellum*; *estame* (*étaim*), Latin *stamen*; *espérer*, instead of Latin *sperare*. Then again, as it were to revenge itself for the additional trouble caused by the initial double consonant, the French language throws away the *s* which had occasioned the addition of the initial *e*, but keeps the vowel which, after the loss of the *s*, would no longer be wanted. Thus *spada* became *espée*, lastly *épée*; *scala* became *eschelle*, lastly *échelle*. *Stabilire* became *establir*, lastly *établir*, to stablish.[1]

Different causes for Phonetic and Dialectic Change.

Now it must be clear that all these changes which we have examined, whether due to economy of muscular exertion, or to what is called euphony, or to phonetic idiosyncrasies, rest on principles totally distinct from those which made the Romans pronounce the same word as *quatuor* which we pronounce *four*. The transition from Gothic *fidwôr* to English *four*, of Latin *quatuor* to French *quatre*, may properly be ascribed to phonetic corruption, but *quatuor* and *fidwôr* together can only be explained as the result of dialectic variation. If we compare *quatuor*, *téssares*, *písyres*, and *fidwôr*, we find a change of guttural, dental, and labial contact in one and the same word. There is nothing to show that the Greeks, or even their most distant Aryan ancestors, ever changed the guttural into the dental contact, or that the Teutonic nations ever considered the labial contact less difficult than the guttural and dental. We cannot show that

[1] Diez, *Grammatik*, i. p. 224.

in Greece the guttural dwindles down to a dental, or that in German the labial is later, in chronological order, than the guttural. We must look upon guttural, dental, and labial as three different phonetic expressions of the same general conception, not as corruptions of one definite original type. That which is not yet differentiated may grow and break forth in many different forms; that which has become differentiated and definite, loses its capability of unbounded development, and its changes assume a downward tendency and must be considered as decay.

Laws of Phonetic Change.

What distinguishes phonetic from dialectic changes is that the former can be reduced to very strict rules, while the latter can not, at least not with the same unerring certainty. Phonetic decay, being due to a relaxation of muscular energy, admits of a simple physiological explanation, and depends on causes which are always the same. It is wrong, no doubt, to speak of phonetic laws in the same sense in which we speak of the law of gravitation. Phonetic laws can be no more than rules which are obeyed uniformly, unless there is a cause sufficient to disturb them. It would be more correct therefore to speak of phonetic rules or of similarities in phonetic change. But the habit of speaking of phonetic laws has become so general that it would be very difficult now to change it. It stands to reason that the phonetic changes which are due to one and the same cause, namely muscular relaxation, must, unless there is a

complete change of circumstances, be uniform and free from all exceptions. And this is so, not only in what may be called classical or well-regulated languages, but likewise in spoken dialects, which have as yet no literary standards.

In the growth of the modern Romanic languages out of Latin, we can perceive not only a general tendency to simplification, not only a natural disposition to avoid the exertion which the pronunciation of certain consonants, and still more, of groups of consonants, entails on the speaker: but we can discover tendencies peculiar to each of the Romanic dialects, and laws so strict as to enable us to say, that in French, and in French only, the Latin *patrem* would by necessity dwindle down to the modern *père*. The final *m* is always dropped in the Romanic dialects, and it was dropped even in Latin. Thus we get *patre* instead of *patrem*. Now, a Latin *t* between two vowels in such words as *pater* is invariably suppressed in French. Whether we call this a law, or a rule, or a tendency, certain it is that it admits of no exception. By means of it we can say *a priori* that Latin *catena* must in French become *chaine*; *fata*, a later feminine representation of the old neuter *fatum*, *fée*; *pratum*, a meadow, *pré*. From *pratum* we derive *prataria*, which in French becomes *prairie*; from *fatum*, *fataria*, the English *fairy*. Thus every Latin participle in *atus*, like *amatus*, loved, must end in French in *é*. The same law then changed *patre* (pronounced *patere*) into *paere*, or *père*; it changed *matrem* into *mère*, *fratrem* into *frère*. These changes take place gradually, but irresistibly; and, what is most im-

portant, they are completely beyond the reach or control of the free will of man.

Dialectic growth is equally beyond the control of individuals, but it does not submit to quite so strict and general rules. The acceptance of peculiar pronunciation, or of a dialectic word, or of a newly-invented term, or of a peculiar grammatical form, depends on the pleasure of the majority far more than on the zeal of a single poet, or the exertions of a few grammarians. Phonetic changes of this kind are often the cause of grammatical changes. They can be accounted for after they have taken place, but they cannot be predicted with the same unvarying certainty as the phonetic changes due to muscular relaxation. Granted, for instance, that the loss of the Latin terminations was the natural result of a more careless pronunciation; granted that the modern sign of the French genitive *du* is a natural corruption of the Latin *de illo*—yet the choice of *de*, instead of any other word, to express the genitive, the choice of *illo*, instead of any other pronoun, to express the article, could never have been predicted. No single individual could deliberately have set to work in order to abolish the old Latin genitive, and to replace it by the periphrastic compound *de illo*. It was necessary that the inconvenience of having no distinct or distinguishable sign of the genitive should have been felt by the people at large who spoke a vulgar Latin dialect. It was necessary that the same people should have used the preposition *de* in such a manner as to lose sight of its original local meaning altogether (for instance, *una de multis*, in Horace, i.e. one out of

many). It was necessary, again, that the same people should have felt the want of an article, and should have used *illo* in numerous expressions, where it seemed to have lost its original pronominal power. It was necessary that all these conditions should be given, before one individual, and after him another, and after him hundreds and thousands and millions, could use *de illo* as the exponent of the genitive; and change it into the Italian *dello*, *del*, and the French *du*.

Infantine Analogy.

The attempts of single grammarians and purists to improve language are perfectly useless; and we shall probably hear no more of schemes to prune languages of their irregularities. But it is quite possible that the gradual disappearance of irregular declensions and conjugations is often due, in literary as well as in illiterate languages, to the dialect of children. Children are great levellers, and their language is far more regular than our own. I have heard children say *badder* and *baddest*, instead of *worse* and *worst*. In Urdú the old sign of the possessive was *rá*, *re*, *rí*. Now it is *ká*, *ke*, *kí*, except in *hamárá*, my, our, *tumhárá*, your, and a few other words, all pronouns. Dr. Fitz-Edward Hall informs me that he heard children in India use *hamká* and *tumká*. Children will say, *I gaed*, *I coomd*, *I catched*; and it is this sense of grammatical justice, this generous feeling of what ought to be, which in the course of centuries may have eliminated many so-called irregular forms.

Thus the auxiliary verb in Latin was very irregular.

If *sumus* is *we are*, and *sunt*, *they are*, the second person, *you are*, ought to have been, at least according to the strict logic of children, *sutis*. This, no doubt, sounds ver barbarous to a classical ear accustomed to *estis*. And we see how French, for instance, has strictly preserved the Latin forms in *nous sommes*, *vous êtes*, *ils sont*. But in Spanish we find *somos*, *sois*, *son*; and this *sois* stands for *sutis*. We find similar traces of grammatical levelling in the Italian *siamo*, *siete*, *sono*, formed according to the analogy of regular verbs such as *crediamo*, *credete*, *credono*. The second person *sei*, instead of *es*, is likewise infantine grammar.[1] So are the Walachian *súntemu*, we are, *súnteti*, you are, which owe their origin to the third person plural *sunt*, they are. And what shall we say of such monsters as *essendo*, a gerund derived on principles of strict justice from an infinitive *essere*, like *credendo* from *credere*! However, we need not be surprised, for we find similar barbarisms in English also. In Anglo-Saxon, the third person plural, *sind*, has by a false analogy[2] been transferred to the first and second persons, and has taken a new termination *on*, which properly be-

[1] Similar formations, occurring in the dialects of France, have been collected by le Comte de Jaubert, in his *Glossaire du Centre de la France*, second edition, p. xii.

[2] Much fault has lately been found with the expression 'false analogy.' It may be quite true that what we call 'false analogy,' or what the ancients called 'anomaly,' is perfectly legitimate, that children have an immemorial right to their irregularities, and peasants to their vulgarities. I do not deny the principle of *liberté* and *égalité* in language, but that does not take away our right of treating such forms as *essendo* or *súntemu* as blunders, from a Latin point of view, or, in more civil language, as false analogies.

longs to the plural of the imperfect. In the Old Northumbrian dialect the first person plural has been used in the second and third, with the same termination of the imperfect in *on*:—

English	Northumbrian[1]	Old Norse	Anglo-Saxon	Gothic.
we are	aron	ër-um	sind (on), bêo-ð	sijum[2]
you are	aron	ër-uð	sind (on), bêo-ð	sijuth
they are[3]	aron	ër-u	sind (on), bêo-ð	sind

Dialectically we hear *I be*, instead of *I am*; and if Chartism should ever gain the upper hand, we must be prepared for newspapers adopting such forms as *I says*, *I knows*.

Phonetic Decay and Dialectic Growth in Negro-English.

What may be the result when Phonetic Decay and Dialectic Growth work together, may best be seen in the English as spoken by the Negroes on the Southern plantations in America. Every disturbing influence is here at work, and yet even here there is some law

[1] Grimm, *Geschichte der Deutschen Sprache*, s. 666.

[2] The Gothic forms *sijum*, *sijuth*, are not organic. They are either derived by false analogy from the third person plural *sind*, or a new base *sij* was derived from the subjunctive *sijau*, Sanskrit syâm. See Leo Meyer, *Die Gothische Sprache*, p. 496.

[3] The Scandinavian origin of these English forms has been well explained by Dr. Lottner, *Transactions of the Philological Society*, 1861, p. 63. The third person plural, under the form of *aran* instead of *aron*, is found in Kemble's *Codex Diplomaticus Ævi Saxonici*, vol. i. p. 235 (A.D. 805–831). As the inroads of the Danes begin about 787, *aran* could hardly have been borrowed from them! *Aron* does not occur in Layamon. It is found in the Ormulum as *arrn*; in Chaucer it has been met with twice only, though, soon after, it became the generally recognised form of the plural. See Gesenius, *De Ling. Chaucer.* p. 72; Monicke, *On the 'Ormulum,'* p. 35.

and order in what seems at first sight mere phonetic chaos.

'Ordinary Negro talk[1], such as we find in books, has very little resemblance to that of the Negroes of Port Royal, who were so isolated that they seem to have formed a dialect of their own. Indeed, the different plantations have their own peculiarities, and adepts profess to be able to determine, by the speech of a Negro, what part of an island he belongs to, or even, in some cases, his plantation. My observations were confined to a few plantations at the northern end of St. Helena Island.

'With these people the process of "Phonetic Decay" appears to have gone as far, perhaps, as is possible, and with it the extremest simplification of etymology and syntax. The usual softening of *th* and *v* into *d* and *b* is observed among them; likewise a frequent interchange of *v* and *w*; as *veeds* and *vell* for *weeds* and *well*; "De wile' sinner may return" (for *vilest*). This last illustrates also the habit of clipping syllables, which they do constantly: as *lee'* for *little*; *plant'shun* for *plantation*. The lengthening of short vowels is illustrated in both these words:—*a*, for instance, never has our short sound, but always the European sound. The following hymn illustrates these points:—

"Meet, O Lord, on de milk-white horse,
An' de nineteen wile [vial] in his han',
Drop on, drop on de crown on my head,
An' rolly in my Jesus' arm.
E'en [in] dat mornin' all day,
When Jesus de Chris' bin born."

'The same hymn, particularly the second verse,

"Moon went into de poplar tree,
An' star went into blood,"

(the figures evidently taken from the book of Revelations,) is a fair specimen of the turn which scriptural ideas and phraseology receive in their untutored minds. It should be observed, by the way, that the songs do not show the full extent of

[1] Quoted from some interesting articles in an American paper, signed Marcel.

the debasement of the language. Being generally taken, in phrases, from Scripture, or from the hymns which they have heard sung by the whites, they retain words and grammatical forms which one rarely hears in conversation. The common speech, in its strange words and pronunciation, abbreviations, and rhythmical modulation, sounds to a stranger like a foreign language.

'These strange words are, however, less numerous than one would imagine. There is *yedde* for *hear*, as in that sweetest of their songs:—

> "O my sin is forgiben and my soul set free,
> An' I yedde from heaben to-day."

There is *sh' um*, a corruption of *see 'em*, applied to all genders and both numbers. There is "huddy" (how-do?), pronounced "how-dy" by the purists among them. It is not irreverence, but affectionate devotion, that is expressed in the simple song:—

> "In de mornin' when I rise,
> Tell my Jesus huddy O,
> Wash my han' in de mornin' glory," etc.

Studdy (steady) is used to denote any continued or customary action. "He studdy 'buse an' cuss me," complained one of the school-children of another. This word *cuss*, by the way, is used by them with great latitude, to denote any offensive language. "He cuss me, 'git out,'" was the charge of one adult against another. "Ahvy [Abby: in this case the b had become v] do cuss me," was the serious-sounding but trifling accusation made by one little girl against her seat-mate. *Both* they seldom use; generally "all two," or emphatically, "all-two boff togedder." *One* for alone. "Me one an' God," was the answer of an old man in Charleston when I asked him whether he escaped alone from his plantation. "Heaben 'nuff for me one" [*i. e.* I suppose, "for my part"], says one of their songs. *Talk* is one of their most common words, where we should use *speak* or *mean*. "Talk me, sir?" asks a boy who is not sure whether you mean him or his comrade. "Talk lick, sir! nuffin but lick," was the answer to the question whether a particular master used to whip his slaves.

'The letters *n* and *y* are often thrown in euphonically. I can only remember at this moment *n* before a long *u* as n'Europe, n'United States, no n'use; but I think it is used with other vowels. Of *y* also I can only recall one instance, which I will give presently. The most curious, however, of all their linguistic peculiarities is, I think, the following: It is well known that the Negroes all through the South speak of their elders as "uncle" and "aunt"; from a feeling of politeness, I do not doubt;—it seemed disrespectful to use the bare name, and from *Mr.* and *Mrs.* they were debarred. On the Sea Islands similar feeling has led to the use of *cousin* towards their equals. Abbreviating this after their fashion, they get co'n or co' (the vowel sound ŭ of *cousin*) as the common title when they speak of one another. C' Abram, Co' Robin, Co'n Emma, C' Isaac, Co' Bob, are specimens of what one hears every day. I have heard Bro' (brother) used in the same way, but seldom; as in the song,

> "Bro' Bill, you ought to know my name,
> My name is written in de book ob life."

'I come now to the subject of grammar, upon which I might almost be entitled to repeat a very old joke, and say that there is no grammar; for there probably is no speech that has less inflection than that of these Negroes. There is no distinction of case, number, tense, or voice, hardly of gender. Perhaps I am wrong in saying that there is no number, for this distinction is made in pronouns, and some of the most intelligent will, perhaps, occasionally make it in nouns. But "Sandy hat" would generally mean indifferently Sandy's hat or hats; "dem cow" is plural, "dat cow" singular; "nigger house" means the collection of Negro houses, and is, I suppose, really plural. As to cases, I do not know that I ever heard a regular possessive, but they have begun to develop one of their own, which is a very curious illustration of the way inflectional forms have probably grown up in other languages. If they wish to make the fact of possession at all emphatic or distinct, they use the whole word "own." Thus, they will say "Mosey house;" but if asked whose house that is, the answer is "Mosey own." "Co' Molsy y'own" was the odd reply made by a little girl to the question whose child she was carrying; *Co'* is title; *y* euphonic.

'Nearly all the pronouns exist. Perhaps *us* does not, *we* being generally in its place. *She* and *her* being rare, *him* is the usual pronoun of the third person singular, for all genders and cases. "Him lick we" was the complaint of some small children against a large girl. *Um* is still more common, as objective case, for all genders and numbers; as *Sh 'um* (*see 'em*).

'"It is too much to say that the verbs have no inflections; but it is true that these have nearly disappeared. Ask a boy where he is going, and the answer is "gwine crick for ketch crab,"—"going into the creek to catch crabs" (*for* being generally used instead of *to*, to denote purpose); ask another where the missing boy is, and the answer is the same, with *gone* instead of *gwine*. Present time is made definite by the auxiliary *do* or *da*, as in the refrains "Bell da ring," "Jericho da worry me."[1] Past time is expressed by *done*, as in other parts of the South. The passive is rarely, if ever, indicated. "Ole man call John," is the answer when you ask who is such and such a person. "Him mix wid him own fät," was the description given of a paste made of bruised ground-nuts, the oil of the nut furnishing moisture.'

I have given this rather long extract, because it seemed to me that what we see here taking place before our eyes in the language of American Negroes, throws very valuable light on what may have taken place thousands of years ago during the earliest phases of human speech. Over and over again less civilised tribes, after having been subdued by more advanced races, have had to learn their masters' language. Over and over again the conquered became the conquerors, and their imperfect language had to be recognised, and after a time it either supplanted its classical prototype, or, at all events, modi-

[1] See J. J. Thomas, *Theory and Practice of Creole Grammar*, 1869 and the same author's remarks in Trübner's *Record*, December, 1870.

fied it considerably. The mischief wrought by phonetic decay seems enormous in that Negro jargon, yet not much more than what we see in *même* as compared with *semetipsissimus*. The confusion created by dialectic growth is most puzzling in the mixed idiom of these slaves, still this too could be matched by such monsters as *contrée* (*contrata*, *Gegend*) for *regio*. As an extreme case of the change of language produced by the combined action of phonetic decay and dialectic growth, it may prove instructive and give us a truer insight into the life and decay of human speech in times far beyond the ken of the ordinary student of the Science of Language.

CHAPTER V.

GRIMM'S LAW.

Is Lautverschiebung due to Phonetic Decay or to Dialectic Growth?

HAVING examined the different influences which produce change in language, we shall now be better prepared to understand that peculiar change in the consonantal structure of the Aryan languages which Grimm called *Lautverschiebung*.

The law by which that shifting of consonants is governed is generally called *Grimm's Law*, because, though it had been suspected before, Grimm was the first to point out the regular recurrence of this far-reaching phonetic modification which affects the principal guttural, dental, and labial consonants in Sanskrit, Greek, Latin, Slavonic and Celtic on one side, and in Low-German and High-German on the other.

The Facts of Grimm's Law.

The facts comprehended under the name of Grimm's Law are as follows:—

There are in the Aryan languages three principal points of consonantal contact, the guttural, the dental, and the labial, *k*, *t*, *p*.

At each of these three points there are two modes of utterance, the surd and the sonant; each in turn liable to aspiration, though only in certain languages. This aspiration may in the end be replaced by mere spiration.

In Sanskrit the system is complete; we have the surd checks, *k*, *t*, *p*; the sonant checks, *g*, *d*, *b*; the surd aspirated checks, *kh*, *th*, *ph*; and the sonant aspirated checks, *gh*, *dh*, *bh*. The sonant aspirated checks are, however, in Sanskrit of far greater frequency and importance than the hard aspirates.

In Greek we find, besides the usual surd and sonant checks, one set of aspirates, χ, θ, φ, which are surd, and which in later Greek dwindle away into the corresponding spirants.

In Latin there are no real aspirates, their place having been taken by the corresponding spirants, *h*, *f*. The dental sibilant, however, the *s*, is never found in Latin as the representative of an original dental aspirate (*th* or *dh*). Corresponding to *dh* we find *f*, or *d* and *b*.

In Gothic, too, the real aspirates are wanting. The same applies to Old High-German.

In the Slavonic and Celtic languages the four aspirates are likewise absent, and they therefore stand in that respect on a level with Gothic[1].

We see, therefore, that the aspirated letters exist only in Sanskrit and Greek, that in the former they are chiefly sonant, in the latter entirely surd.

Grimm's Law amounts to this: 'If the same roots

[1] See Grassmann in Kuhn's *Zeitschrift*, xii. p. 83.

or the same words exist in Sanskrit, Greek, Latin, Celtic, Slavonic, Lithuanian, Gothic, and High-German, then wherever the Hindus and the Greeks pronounce an aspirate, the Goths and the Low Germans generally, the Saxons, Anglo-Saxons, Frisians, &c., pronounce the corresponding sonant check, the Old High-Germans the corresponding surd check. In this first change the Lithuanian, the Slavonic, and the Celtic races agree in pronunciation with the Gothic. We thus arrive at the first formula :—

I.	Greek and Sansk.	KH, GH	TH, DH,	PH, BH[1]
II.	Gothic, &c.	G	D	B
III.	Old H.-G.	K	T	P

Secondly, if in Greek, Latin, Sanskrit, Lithuanian, Slavonic, and Celtic, we find a sonant check, then we find a corresponding surd check in Gothic, a corresponding spirant in Old High-German. This gives us the second formula:—

IV.	Greek, &c.	G	D	B
V.	Gothic	K	T	P
VI.	Old H.-G.	Ch	Z	F (Ph)[2]

Thirdly, when the six first-named languages show a surd check, then Gothic shows the corresponding spirant, Old High-German the corresponding sonant

[1] The letters here used are to be considered merely as symbols, not as the real letters occurring in those languages. If we translate these symbols into real letters, we find, in Formula I., instead of

	KH	TH	PH
Sanskrit	kh, gh, h	th, dh, h	ph, bh, h
Greek	χ	θ	ϕ
Latin	h, f (gv, g, v, ')	f (d, b)	f (b)
Gothic	h	th	f (v)

[2] The O.H.G. spirants become affricatae, except medially between vowels, and finally after vowels.

check. In Old High-German, however, the law holds good with regard to the dental series only, while in the guttural and labial series the Old High-German documents generally exhibit *h* and *f*, instead of the corresponding *g* and *b*. This gives us the third formula:—

VII.	Greek, &c.	K	T	P
VIII.	Gothic	H (G)	Th (D)	F (B)
IX.	Old H.-G.	H (G, K)	D	F (B, V)

Object of the Fourfold Modification of Consonants.

We saw from our physiological analysis of the alphabet, that three, or sometimes four, varieties may exist for each of the three consonantal contacts :—

k, kh, g, gh ; t, th, d, dh ; p, ph, b, bh.

This rich variety of consonantal contact is to be found, however, in highly developed languages only. Even among the Aryan dialects, Sanskrit alone can boast of possessing it entire. Greek is driven to merge the difference between sonant and surd aspirates, and, where Sanskrit uses sonant aspirates, it has to employ surd aspirates. The other Aryan languages having no sonant aspirates, use sonant tenues instead. They all, in fact, cut the coat according to their cloth.

The introduction of the differences of articulation in more highly developed languages had a definite and intelligible object. As new conceptions craved expression, the phonetic organs were driven to new devices, which gradually assumed a more settled, traditional, and typical form. It is possible to speak

without labials, it is possible to say a great deal in a language which has but seven consonants, just as it is possible for a mollusc to eat without lips, and to enjoy life without either lungs or liver. But I believe it can be proved that at a very early time, and before the Aryan nations, such as we know them, separated, some of them, at all events, had elaborated a threefold, if not a fourfold modification of the consonantal checks for the sake of distinguishing a number of roots which they required in their intellectual intercourse.

Treble Roots.

The Aryans, before they separated, had, for instance, three roots, which in Sanskrit appear as tar, dar, and dhar, differing chiefly by their initial consonants which represent three varieties of dental contact. Tar meant to cross, dar, to tear, dhar, to hold. Now although we may not know exactly how the Aryans before their separation pronounced these three letters, the t, d, and dh, we may be certain that they kept them distinct. That distinction was kept up in Sanskrit by means of the surd, the sonant, and the aspirated sonant contact, but it might have been achieved equally well by the surd, the sonant, and the aspirated surd contact, *t*, *d*, *th*, or by the surd and sonant contacts together with the dental spirant. The great point was to have three distinct utterances for three distinct, though possibly cognate, expressions. Now, if the same three roots coexisted in Greek, they would there, as the sonant aspirates are wanting, appear from the

very beginning, as *tar* (*térma, ter-minus*), *dar* (*dérma*, skin), and *thar*, but never as *dhar*.[1] But what would happen, if the same three roots had to be fixed by the Romans, who had never realised the existence of aspirates at all? It is clear that in their language the distinctions so carefully elaborated at first, and so successfully kept up in Sanskrit and Greek, would be lost. *Dar* and *Tar* might be kept distinct, but the third variety, whether *dhar* or *thar*, would either be merged, or assume a different form altogether.

Let us see what happened in the case of *tar*, *dar*, and *dhar*. Instead of three, as in Sanskrit, the other Aryan languages have fixed on two roots only, *tar* and *dar*, replacing *dhar* by *bhar*, or some other radical. Thus *tar*, to cross, has produced in Sanskrit tarman, point, tiras, through; in Greek *tér-ma*, end; in Latin *ter-minus*, and *trans*, through; in Old Norse, *thrö-m*, edge, Gothic *thairh*, through; in Old High-German *dru-m*, end, *durh*, through. *Dar*, to burst, to break, to tear, exists in Sanskrit *drinâti*, in Greek *deírō*, I skin; *dérma*, skin; Gothic *tairan*, to tear; Old High-German *zeran*. But though traces of the third root *dhar* may be found here and there, for instance in Persian *Dârayavus*, Darius, i.e. the holder or sustainer of the empire, in Zend *dere*, Old Persian *dar*,

[1] The possible corruption of *gh, dh, bh*, into *kh, th, ph*, has been explained by Curtius (*G. E.* ii. 17), under the supposition that the second element of *gh, dh, bh*, is the spiritus asper, a supposition which is untenable (Brücke, p. 84). But even if the transition of *gh* into *kh* were phonetically possible, it has never been proved that Greek ever passed through the phonetic phase of Sanskrit. See also the interesting observations of Grassmann, in Kuhn's *Zeitschrift*, xii. p. 106.

to hold, that root has disappeared in most of the other Aryan dialects.

The same has happened even when there were only two roots to distinguish. The two verbs, dadâmi, I give, and dadhâmi, I place, were kept distinct in Sanskrit by means of their initials. In Greek the same distinction was kept up between *dí-dō-mi*, I give, and *títhēmi*, I place: and a new distinction was added, namely, the *ē* and the *ō*. In Zend the two roots ran together, *dâ* meaning both *to give* and *to place*, or *to make*, besides *dâ*, to know. This is clearly a defect. In Latin it was equally impossible to distinguish between the roots *dâ* and *dhâ*, because the Romans had no aspirated dentals; but such was the good sense of the Romans that, when they felt that they could not efficiently keep the two roots apart, they kept only one, *dare*, to give, and replaced the other *dare*, to place or to make, by different verbs, such as *ponere*, *facere*. That the Romans possessed both roots originally, we can see in such words as *crêdo*, *crêdidi*, which correspond to Sanskrit srad-dadhâmi, srad-dadhau,[1] but where the *dh* has of course lost its aspiration in Latin. In *condere* and *abdere* likewise the radical element is *dhâ*, to place, while in *reddo*, I give back, *do* must be traced back to the same root as the Latin *dare*, to give. In Gothic, on the contrary, the root *dâ*, to give, was surrendered, and *dhâ* only was preserved, though, of course, under the form of *dâ*.

Such losses, however, though they could be re-

[1] Sanskrit dh appears as Latin *d* in *medius* = Sk. madhya, Greek μέσος or μέσσος, meri-dies, for medi-dies = μεσ-ημβρία.

medied, and have been remedied in languages which had not developed the aspirated varieties of consonantal articulation, were not submitted to by Gothic and the other Low and High German tribes without an effort to counteract them. The Teutonic tribes, as we saw, were without real aspirates, but in taking possession of the phonetic inheritance of their Aryan, not Indian, forefathers, they retained the consciousness of the threefold variety of their consonantal checks, and they tried to meet this threefold claim as best they could. Aspirates, whether surd or sonant, they had none. Hence, where Sanskrit had fixed on sonant, Greek on surd aspirates, Gothic, like Latin, like the Celtic and Slavonic tongues, preferred the corresponding sonant checks; High-German the corresponding surd checks. High-German approached to Greek, in so far as both agreed on surd consonants; Gothic approached to Sanskrit, in so far as both agreed on sonant consonants. But none borrowed from the other, none was before or after the other. All four, according to my view of dialectic growth, must be taken as dialectic varieties of one and the same type.

So far all would be easy and simple. But now we have to consider the common Aryan words which in Sanskrit, Greek, in fact, in all the Aryan languages, begin with sonant and surd checks. What could the Goths and the High-Germans do? They had really robbed Peter to pay Paul. The High-Germans had spent their surd, the Goths their sonant checks, to supply the place of the aspirates. The soft checks of the Goths, *g*, *d*, *b*, corresponding to Sanskrit gh, dh,

bh, were never meant, and could not be allowed, to run together and be lost in the second series of soft consonants which the Hindus, the Greeks, and the other Aryan nations kept distinct from *gh*, *dh*, *bh*, and expressed by *g*, *d*, *b*. These two series were felt to be distinct by the Goths and the High-Germans, quite as much as by the Hindus and Greeks; and while the Celtic and Slavonic nations submitted to the aspirates *gh*, *dh*, *bh*, being merged in the real mediæ *g*, *d*, *b*, remedying the mischief as best they could, the Goths, guided by a wish to keep distinct what must be kept distinct, fixed the second series, the *g*, *d*, *b*'s in their national utterance as *k*, *t*, *p*'s.

The same pressure would be felt once more, for there was the same necessity of maintaining an outward distinction between their *k*, *t*, *p*'s and that third series, which in Sanskrit and Greek had been fixed as *k*, *t*, *p*. Here the Gothic nations were driven to adopt the only remaining expedient; and in order to distinguish the third series both from the *g*, *d*, *b*'s and *k*, *t*, *p*'s, which they had used up, they had to employ the corresponding surd spirants, the *h*, *th*, and *f*.

The High-German tribes passed through nearly the same straits. What the Greeks took for surd aspirates, they had taken for surd tenues. Having spent their *k*, *t*, *p*'s, they were driven to adopt the spirants and affricatae, the *ch*, *z*, *f*, as the second variety; while, when the third variety came to be expressed, nothing remained but the mediæ, which, however, in the literary documents accessible to us, have, in the guttural and labial series, been constantly replaced by the Gothic *h* and *f*, caus-

ing a partial confusion which might easily have been avoided.

This phonetic process which led the Hindus, Greeks, Goths, and Germans to a settlement of their respective consonantal systems might be represented as follows. The aspirates are indicated by I., the mediæ by II., the tenues by III., the spirants by IV.:—

Sanskrit .	gh	I. dh	bh	g	II. d	b	k	III. t	p
Gothic .	g	II. d	b	k	III. t	p	h	IV. th	f
Greek . .	χ	I. θ	φ	k	III. t	p	g	II. d	b
High-German	k	III. t	p	(g)h	II. d	(b)f	ch	IV. z	f

Let us now examine one or two more of these clusters of treble roots, like *dhar*, *dar*, *tar*, and see how they burst forth under different climates from the soil of the Aryan languages.

There are three roots, all beginning with a guttural and ending with the vocalised *r*. In the abstract they may be represented as KAR, GAR, KHAR (or GHAR). In Sanskrit we meet first of all with GHAR, which soon sinks down to HAR, a root of which we shall have to say a great deal when we come to examine the growth of mythological ideas, but which for the present we may define as meaning to glitter, to be bright, to be happy, to burn, to be eager. In Greek this root appears in *chaírein*, to rejoice, &c.

Gothic, following Sanskrit as far as it could, fixed

the same root as GAR, and formed from it *geiro*, desire; *gairan* and *gairnjan*, to desire, to yearn—derivatives which, though they seem to have taken a sense almost the contrary of that of the Greek *chaírein*, find valuable analogies in the Sanskrit haryati, to desire, &c.[1] The High-German, following Greek as far as possible, formed *kiri*, desire; *kerni*, desiring, &c. So much for the history of one root in the four representative languages, in Sanskrit, Greek, Gothic, and High-German.

We now come to a second root, represented in Sanskrit by GAR, to shout, to praise. There is no difficulty in Greek. Greek had not spent its mediæ, and therefore exhibits the same root with the same consonants as Sanskrit, in gēry*s*, voice; *gēryō*, I proclaim. But what was Gothic to do, and the languages which follow Gothic, Low-German, Anglo-Saxon, Old Norse? Having spent their mediæ on *ghar*, they must fall back on their tenues, and hence the Old Norse *kalla*, to call,[2] but not the A.S. *galan*, to yell. The name for crane is derived in Greek from the same root, *géranos*, meaning literally the shouter. In Anglo-Saxon *cran* and Old E. *crane* we find the corresponding tenuis. Lastly, the High-German, having spent its tenuis, has to fall back on its guttural breath; hence O.H.G. *challôn*, to call, and *chranoh*, crane.

The third root, KAR, appears in Sanskrit as well as in Greek with its guttural tenuis. There is in

[1] See Curtius, *Griechische Etymologie*, i. 166, and Objections, *ibid.* ii. 313.

[2] Lottner in Kuhn's *Zeitschrift*, xi. p. 165.

Sanskrit kar, to make, to achieve; kratu, power, &c.; in Greek *kraínō*, I achieve; and *kratýs*, strong; *kártos*, strength. Gothic having disposed both of its media and tenuis, has to employ its guttural spirant to represent the third series; hence *hardus*, hard, i.e. strong. The High-German, which naturally would have recourse to its unemployed media, prefers in the guttural series the Gothic spirant, giving us *harti* instead of *garti*, and thereby causing, in a limited sphere, that very disturbance the avoidance of which seems to be the secret spring of the whole process of the so-called Dislocation of Consonants, or *Lautverschiebung*.

Again, there are in Sanskrit three roots ending in u, and differing from each other merely by the three dental initials, dh, d, and t. There is dhû (dhu), to shake; du, to burn; and tu, to grow.[1]

The first root, dhû, produces in Sanskrit dhû-nomi, I shake; dhû-ma, smoke (what is shaken or whirled about); dhû-li, dust. In Greek the same root yields *thýō*, to rush, as applied to rivers, storms, and the passions of the mind; *thýella*, storm; *thȳmós*, wrath, spirit; in Latin, *fumus*, smoke.

In Gothic the Sanskrit aspirate dh is represented by *d*; hence *dauns*, vapour, smell. In Old High-German the Greek aspirate *th* is represented by *t*; hence *tunst*, storm.

The second root, du, meaning to burn, both in a material and moral sense, yields in Sanskrit dava, conflagration; davathú, inflammation, pain; in Greek *daíō*, *dédaumai*, to burn; *dýē*, misery.

[1] See Curtius, *Griechische Etymologie*, i. 224, 196, 192.

Another Sanskrit root, du, to move about, to be busy, has as yet been met with in Sanskrit grammarians only. But, besides the participle dûna, mentioned by them, there is the participle dûta, a messenger, one who is moved or sent about on business, and in this sense the root du may throw light on the origin of Gothic *taujan*, German *zauen*, to do quickly, to speed an act.[1]

The third root, tu, appears in Sanskrit as tavîti, he grows, he is strong; in tavás, strong; tavishá, strong; tuvi (in comp.), strong; in Greek, as *taĭs*, great. The Latin *tôtus* has been derived from the same root, though not without difficulty. The Umbrian and Oscan words for city, on the contrary, certainly came from that root, *tuta, tota,* from which *tuticus* in *meddix tuticus*,[2] town magistrate. In Lettish, *tauta* is people; in Old Irish, *tuath*.[3] In Gothic we have *thiuda*,[4] people; *thiudisk-s*, belonging to the people, *theodiscus*; *thiudiskô*, *ethnikōs*; in Anglo-Saxon, *theón*, to grow; *theód* and *theódisc*, people; *getheód*, language (il volgare). The High-German, which looks upon Sanskrit t and Gothic *th* as *d*, possesses the same word, as *diot*, people, *diutisc*, popularis; hence *Deutsch*, German, and *deuten*, to explain, lit. to Germanize.

[1] M. M., *Rig-veda-Sanhitâ*, translated, vol. i. p. 63.

[2] Aufrecht und Kirchhoff, *Die Umbrischen Sprachdenkmäler*, i. p. 155; Kuhn, *Zeitschrift*, vii. 166. See, for a new interpretation of *meddix*, Corssen, in Kuhn's *Zeitschrift*, xi. 332.

[3] Lottner, Kuhn's *Zeitschrift*, vii. 166.

[4] Grimm, *Deutsche Grammatik*, first part, 3rd edition, 1840, Einleitung, p. x. '*Excurs über Germanisch und Deutsch.*'

Examples of Lautverschiebung.

Let us now examine a few words which form the common property of the Aryan nations, and which existed in some form or other before Sanskrit was Sanskrit, Greek Greek, and Gothic Gothic. Some of them have not only the same radical, but likewise the same formative or derivative elements in all the Aryan languages. These are, no doubt, the most interesting, because they belong to the earliest stages of Aryan speech, not only by their material, but likewise by their workmanship. Such a word as *mother*, for instance, has not only the same root in Sanskrit, Greek, Latin, German, Slavonic, and Celtic, namely, the root *mâ*, but likewise the same derivative *tar* throughout,[1] so that there can be no doubt that in the English *mother* we are handling the same word which in ages commonly called prehistoric, but in reality as historical as the days of Homer, or the more distant times of the Vedic Rishis, was framed to express the original conception of *genitrix*. But there are other words which, though they differ in their derivative elements, are identical in their roots and in their meanings, so as to leave little doubt that, though they did not exist previous to the dispersion of the Aryans in exactly that form in which they are found in Greek or Sanskrit, they are nevertheless mere dialectic varieties, or modern modifications of earlier words. Thus *star* is not exactly the same word as *stella*; yet these two words show that, previous to

[1] Sk. mâtâ; Greek *μήτηρ*; Lat. *mater*; O.H.G. *muotar*; O.Sl. *mati*; Lith. *moti*; Gaelic, *mathair*.

the confusion of the Aryan tongues, the root *star*, to strew, was applied to the stars, as strewing about or sprinkling forth their sparkling light. In that sense we find the stars called str*i*, plural staras, in the Veda. The Latin *stella* stands for *sterula*, and means a little star; the Gothic *stair-nô* is a new feminine derivative. As to the Greek *astêr*, it is supposed to be derived from a different root, *as*, to shoot, and to mean the shooters of rays, the darters of light; but it can, with greater plausibility, be claimed for the same family as the Sanskrit star.

It might be objected that this very word star violates the law which we are going to examine, though all philologists agree that it is a law that cannot be violated with impunity. But, as in other sciences, so in the science of language, a law is not violated, on the contrary, it is confirmed, by exceptions, if a rational explanation can be given of them. Now the fact is that Grimm's law is most strictly enforced on all initial consonants, but much less so on medial and final consonants. But whenever the tenuis is preceded at the beginning of words or syllables by an *s*, *h*, or *f*, these letters protect the *k*, *t*, *p*, and guard it against the execution of the law. Thus the root *stâ* does not become *sthâ* in Gothic; nor does the *t* at the end of *noct-is* become *th*, night being *naht* in Gothic. On the same ground, *st* in *stăr* and *stella* could not appear in Gothic as *sth*, but remain *st* as in *stairnô*.

In selecting a few words to illustrate each of the nine cases in which the dislocation of consonants has taken place, I shall confine myself, as much as pos-

sible, to words occurring in English; and I have to observe that, as a general rule, Anglo-Saxon stands throughout on the same step as Gothic. Consonants in the middle and at the end of words are liable to various disturbing influences, and I shall therefore dwell chiefly on the changes of initial consonants.

Our first class consists of words which in English and Anglo-Saxon begin with the sonant *g*, *d*, and *b*. If the same words exist in Sanskrit, we expect the aspirates *gh*, *dh*, *bh*, but never *g*, *d*, *b*, or *k*, *t*, *p*. In Greek we expect χ, θ, φ. In the other languages there can be no change, because they ignore the distinction between aspirates and sonant checks, except the Latin, which fluctuates between sonant checks and guttural and labial spirants.

I. KH, Greek χ; Sanskrit kh, gh, h; Latin h, f (g).
G, Gothic g; Latin gv, g, v; Celtic g; Slavonic g, z.
K, Old High-German k.

The English *yesterday* is the Gothic *gistra*, the Anglo-Saxon *geostra* or *geostrandæg*, German *gestern*. The radical portion is *gis*, the derivative *tra*; just as in Latin *hes-ternus*, *hes* is the base, *ternus* the derivative. In *heri* the *s* is changed to *r*, because it stands between two vowels, like *genus*, *generis*. Now in Sanskrit we look for initial g h, or h, and so we find h y a s, yesterday. In Greek we look for χ, and so we find *chthés*. Old High-German, *këstre*. In Persian, *di-ruz*.

Corresponding to *gall*, bile, we find Greek *cholé*, Latin *fel* instead of *hel*.[1]

[1] Lottner, *Zeitschrift*, vii. 167.

Similarly Gothic *giu-ta*, to pour out, is connected with Greek χέω, χυτός, and Sanskrit hu, to pour out libations, the Latin *fundo*, and *fūtilis*.

The English *goose*, the A.S. *gôs*, is the O.H.G. *kans*, the Modern German *Gans*.[1] (It is a general rule in A.S. that *n* before *f*, *s*, and th is dropped; thus Goth. *munth-s*=A.S. *mûth*, mouth; Latin *dens*, A.S. *tôth*, tooth; German *ander*, Sk. antara, A.S. *ôther*, other.) In Greek we find *chḗn*, in Latin *anser*, instead of *hanser*, in Sanskrit hamsa, in Russian *gus'*, in Bohemian *hus*, well known as the name of the great reformer and martyr.

II. TH, Greek θ, φ; Sanskrit th, dh; Latin f (b, d).
D, Gothic d; Latin d, b; Celtic d; Slavonic d.
T, Old High-German t.

The English *to dare* is the Gothic *gadaursan*, the Greek *tharseîn* or *tharreîn*, the Sanskrit dhṛish, the O.Sl. *drizati*, O.H.G. *tarran*. The Homeric *Thersites*[2] may come from the same root, meaning the daring fellow. Greek, *thrasýs*, bold, is Lithuanian *drasus*.

The English *doom* means originally *judgment*; hence, 'final doom,' the last judgment; *Doomsday*, the day of judgment. So in Gothic, *dom-s* is judgment, sentence. If this word exists in Greek, it would be there derived from a root *dhâ* or *thê* (títhēmi), which means to place, to settle, and from which we have at least one derivative in a strictly legal sense, namely, *thémis*, law, what is settled, then the goddess of justice.

[1] Curtius, *G. E.* i. 222.

[2] Curtius, *G. E.* i. 222.

Professor Bréal has traced Latin *fas* to the same root. There is less reason why *law*, A.S. *lagu*, should not be connected with *lex*, and both be derived from a root **lah*, to lay down (λέχος, Lat. *lectus*), just as the German *Gesetz* was meant for what is settled, a statute.

III. PH, Greek φ; Sanskrit ph, bh; Latin f (b).
B, Gothic b; Latin b; Celtic and Slavonic b.
P, Old High-German p.

The A.S. *béom*, 'I am,' is the O.H.G. *pi-m*, the modern German *bin*, the Sanskrit bhavâmi, from a root which appears in the Greek *phúo*, and in Latin *fui*.

The Gothic *bôka*[1] is the Latin *fâgus*, the O H.G. *puocha*. The Greek *phēgós*, which is identically the same word, does not mean beech, but oak. It is difficult to say whether this change of meaning was accidental, or whether there were circumstances by which it can be explained? Was *phēgós* originally the name of the oak, meaning the food-tree, from *phageîn*, to eat? And was the name which originally belonged to the oak (the Quercus Esculus) transferred to the beech, after the age of stone with its fir-trees, and the age of bronze with its oak-trees, had passed away,[2] and the age of iron and of beech-trees had dawned on the shores of Europe? I hardly venture to say Yes; yet we shall meet with other words and other changes of meaning suggesting similar ideas, and encouraging

[1] The A. S. *bāce*, English *beech*, presupposes a Teutonic *bôkâ*, fem. In *buck-mast* we have evidence of a former *bóc*.
[2] Sir Charles Lyell, *Antiquity of Man*, p. 9.

the student of language in looking upon these words as witnesses attesting more strikingly than flints and tags the presence of human life and Aryan language in Europe, previous to the beginning of history or tradition.

What is the English *brim*?[1] We say a glass is *brim full*, or we fill our glasses to the *brim*, which means simply 'to the edge.' We also speak of the brim of a hat, the German *Bräme*. Now originally *brim* did not mean every kind of edge or verge, but only the line which separates the land from the sea. It is derived from the root *bhram*, which, as it ought, exhibits bh in Sanskrit, and means to *whirl about*, applied to fire, such as bhrama, the leaping flame, or to water, such as bhrama, a whirlpool, or to air, such as bh*ri*mi, a whirlwind. Now what was called *æstus* by the Romans, namely, the swell or surge of the sea, where the waves seemed to foam, to flame, and to smoke (hence æstuary), the same point was called by the Teutonic nations the *whirl*, or the *brim*. After meaning the border-line between land and sea, it came to mean any border, though in the expression, 'fill your glasses to the brim,' we still imagine to see the original conception of the sea rushing or pouring in toward the dry land. In Greek we have a derivative verb *phrimássein*,[2] to toss about; in Latin *fremo*, chiefly in the sense of raging or roaring, and

[1] Kuhn, *Zeitschrift*, vi. 152.

[2] *βρέμω* and *βρόμος*, which are compared by Kuhn, would violate the law; they express principally the sound, for instance in *βροντή*, *ἐμβρεμέτης*, Curtius, *G. E.* ii. 109. Grassmann, in Kuhn's *Zeitschrift*, xii. 93.

perhaps *frendo*, to gnash, are akin to this root. In the Teutonic languages other words of a totally different character must be traced back to the same original conception of *bhram*, to whirl, to be confused, to be rolled up together, namely, *bramble*, *broom*, &c.[1]

We now proceed to the second class, namely, words which in Gothic and Anglo-Saxon are pronounced with *k*, *t*, *p*, and which, therefore, in all the other Indo-European languages, with the exception of Old High-German, ought to be pronounced with *g*, *d*, *b*.

IV. G, Sanskrit g; Greek, Latin, and Celtic g; Slavonic g, z.
K, Gothic k.
KH, Old High-German ch.

The English *corn* is the Gothic *kaurn*, Slavonic *zr'no*, Lith. *źirnis*. In Latin we find *granum*,[2] in Sanskrit we may compare *gîrna*, ground down, though chiefly applied metaphorically to what is ground down or destroyed by old age. O.H.G. *chorn*.

The English *kin* is Gothic *kuni*, A.S. *cynn*, O.H.G. *chunni*. In Greek *génos*, Latin *genus*, Sk. *ganas*, we have the same word. The English *child*, A.S. *cild*, is in Old Saxon *kind*, the Greek *gónos*, offspring. The English *queen* is the Gothic *qêns*, the A.S. *cwên*. It meant originally, like the Sanskrit *gâni*, woman, because mother, just as *king*, the German *könig*, the O.H.G. *chuninc*, the A.S. *cyn-ing*, meant originally, like Sk. *ganaka*, father.[3] Besides the forms with long vowel, the same word exists with

[1] *Brande*, sorte de broussaille dans le Berry, bruyère à balai.
[2] Brugmann, *Vergleichende Grammatik*, § 306.
[3] See *infra*, p. 284.

a short vowel, as Gothic *qĭnô*, Old Saxon *quĕna*, A.S. *cwĕne*, Slav. *žena*, Boet. *βανά*, Sanskrit gnâ.[1]

The English *knot* is the Old Norse *knûtr*, the Latin *nodus*, which stands for *gnodus*.

V. D, Sanskrit d; Greek, Latin, Celtic, Slavonic d.
T, Gothic t.
TH, Old High-German z.

English *two* is Gothic *twai*, O.H.G. *zuei*. In all other languages we get the initial soft *d*; Greek *dúo*, Latin *duo*, Lith. *du*, Slav. *dva*, Irish *do*. *Dubius*, doubtful, is derived from *duo*, two; and the same idea is expressed by the German *Zweifel*, Old High-German *zwîfal*, Gothic *tweifls*.

English *tree* is Gothic *triu*; in Sanskrit dru, wood and tree (dâru, a log). In Greek *drŷs* is tree, but especially *the* tree, namely, the oak.[2] In Irish *darach* and in Welsh *derw* the meaning of oak is said to preponderate, though originally they meant tree in general. In Slavonic *drjevo* we have again the same word in the sense of tree. The Greek *dóry* meant originally a wooden shaft, then a spear.

English *timber* is Gothic *timr* or *timbr*, from which *timrjan*, to build. We must compare it, therefore, with Greek *démein* to build, *dómos*, house, Lat. *domus*, Sanskrit dama, the German *Zimmer*, room.

VI. B, Sanskrit b or v; Greek, Latin, Celtic, and Slavonic b.
P, Gothic p (scarce).
PH, Old High-German ph or f.

[1] See Brugmann, § 70.

[2] Schol. ad Hom. *Il.* xi. 86 δρυτόμος, ξυλοτόμος· δρῦν γὰρ ἐκάλουν οἱ παλαιοὶ ἀπὸ τοῦ ἀρχαιοτέρου πᾶν δένδρον.

There are few really Saxon words beginning with *p*, and there are no words in Gothic beginning with that letter, except foreign words. In Sanskrit, too, the consonant that ought to correspond to Gothic *p*, namely *b*, is very seldom, if ever, an initial sound, its place being occupied by the labial spiritus *v*.

We now proceed to the third class, i.e. words beginning in English and Gothic with aspirates, or more properly with breathings, which necessitate in all other Aryan languages, except Old High-German, corresponding consonants such as *k*, *t*, *p*. In Old High-German the law breaks down. We find *h* and *f* instead of *g* and *b*, and only in the dental series the media *d* has been preserved, corresponding to Sanskrit *t* and Gothic *th*.

VII. K, Sanskrit k; Greek k; Latin c, qu; Old Irish c, ch; Slavonic k.
KH, Gothic h, g (f). Sanskrit h.
G, Old High-German h (g, k).

The English *heart* is the Gothic *hairtô*. Accordingly we find in Latin *cor*, *cordis*, in Greek *kardía*. In Sanskrit we should expect *srid*, instead of which we find the irregular form h*rid*. O.H.G. *herza*.

The English *hart*, cervus, is the Anglo-Saxon *heorot*, the Old High-German *hiruz*. This points to Greek *keraós*, horned, from *kéras*, horn, and to *cervus* in Latin. The same root produced in Latin *cornu*, Gothic *haurn*, Old High-German *horn*. In Sk., *s*i*ras* is head, *sr*i*n*ga, horn.

The English *who* and *what*, though written with *wh*, are in Anglo-Saxon *hwâ* and *hwæt*, in Gothic *hwas*, *hwô*, *hwa*. Transliterating this into Sanskrit,

we get kas, kâ, kad; Latin *quis, quæ, quid*; Greek *kós* and *pós*.

VIII. T, Sanskrit t; Greek, Latin, Celtic, Slavonic t.
TH, Gothic th and d.
D, Old High-German d.

The English *that* is the Gothic *thata*, the neuter of *sa, sô, thata*; A.S. *se, seó, thæt*; German *der, die, das*. In Sanskrit sa, sâ, tad; in Greek, *ho, hē, tó*.

In the same manner *three*, Gothic *threis*, is Sanskrit trayas, High-German *drei*.

Thou, Sanskrit tvam, Greek *tý* and *sý*, Latin *tu*, High-German *du*.

Thin in Old Norse is *thunnr*, Sanskrit tanu-s, Latin *tenuis*, High-German *dünn*.

IX. P, Sanskrit p; Greek, Latin, Celtic, Slavonic p.
PH, Gothic f and b.
B, Old High-German f and v.

The last case is that of the labial spiritus in English or Gothic, which requires a hard labial as its substitute in Sanskrit and the other Aryan dialects, except in Old High-German, where it mostly reappears as *f*.

The English *to fare* in 'fare thee well' corresponds to Greek *póros*, a passage. *Welfare, wohlfahrt*, would be in Greek *euporía*, opposed to *aporía*, helplessness.

The English *feather* would correspond to a Sanskrit pattra, and this means a *wing* of a bird, i.e. the instrument of flying, from pat, to fly, and tra. As to *penna*, it comes from the same root but is formed with another suffix. It would be in Sanskrit patana, *pesna* and *penna* in Latin.

The English *friend* is a participle present. The verb *frijôn* in Gothic means *to love*; hence, *frijônd*, a lover. It is the Sanskrit prî, to love.

The English *few* is the same word as the French *peu*. *Few*, however, is not borrowed from Norman-French, but the two are distant cousins. *Peu* goes back to *paucus*; *few* to A.S. *fêawe*, Gothic *fawai*; and this is the true Gothic representative of the Latin *paucus*. O.H.G. *fôh*.

GENERAL TABLE OF GRIMM'S LAW.

	1	2	3	4	5	6	7	8	9
Sanskrit . . .	g h (h)	d h (h)	b h (h)	g	d	b	k	t	p
Greek	χ	θ	φ	γ	δ	β	κ	τ	π
Latin	h f (g v)	f (d b)	f (b)	g	d	b	c qu	t	p
Old Irish . . .	g	d	b	g	d	b?	c (ch)	t (th)	(p)?
Old Slavonic . .	g z	d	b	g z	d	b	k	t	p
Lithuanian . .	g z	d	b	g z	d	b	k	t	p
Gothic	g	d	b	k	t	(p)?	h g (f)	th d	f b
Old High-German	k	t	p	ch	zz	f ph	h g k	d	f b

The Theory of Grimm's Law.

So much for the facts comprehended under the name of *Grimm's Law*. What is even more important however than the facts, is the question, whether they can be accounted for. Various theories have been started to account for this far-reaching change, and as they touch some of the fundamental principles of our science, we shall have to examine some of them more carefully.

In spite of repeated protests, many scholars, chiefly encouraged by the example of Schleicher, will continue to treat consonants and vowels as things existing by themselves. They speak of a letter as

produced at a certain time, then changing gradually by growing stronger or weaker, being assimilated or elided, and all this without any reference to the speaker, without whom after all no letter has any existence whatever. If scholars would always think clearly, and remain conscious of the metaphorical character of the language they are using, there would be little harm in their speaking of a Sanskrit dh being changed into a Greek θ, or of a Greek θ being changed into a Gothic *d*. I am not so pedantic as to cavil at such statements, so long as they are used for the sake of brevity only. But when such phrases are taken literally, and when the change of Greek *treis* into Gothic *threis*, and Old High-German *drei* is represented as an historical process, it seems high time indeed to protest. Why have all accurate scholars so strongly protested against looking upon Sanskrit as the mother of Greek and Latin, if Greek, Latin, or Sanskrit may be represented as the mother of Gothic? Is Gothic to be treated as a more modern language than Sanskrit or Greek or Latin, because we happen to know it only in the fourth century of our era? And again, is Old High-German to be treated as a more modern dialect than Gothic, because its literature dates from the eighth century only? Are all the lessons of Greek dialectology to be thrown away, when we approach the dialects of Germany? No Greek scholar would now venture to derive Attic from Doric, or Doric from Attic, nor would he allow the existence of a uniform Greek language, a kind of pre-Homeric Κοινή, from which the principal dialects of Greece were derived. Why then should we mete

a different measure to German dialects, such as Low-German, High-German, and Scandinavian? Are Greek σπυίω, Lat. *spuo*, to spit, to be treated as phonetic corruption of Sk. sh*th*yu (sh*th*îw)? Is Sanskrit satam more modern than Latin *centum*? There are rules of Dialectic Growth, though they are not so strict as the rules of Phonetic Decay. We may say, for instance, with perfect certainty that Sk. *s* never varies dialectically with Latin *p*, but we have no right to say that in the course of time *kw* dwindled down to *p*, or *p* to *kw*, however plausible the imperceptible degrees of phonetic transition between *kw* and *p* may be. If it is contrary to the principles of the Science of Language to derive Attic *téssares* from Doric *tétores*, or Doric *tétores* from Aeolic *pessyres*, why then should Old High-German *drei* be treated as the degenerate descendant of Gothic *threis*? No Sanskrit dh did ever become *th*, no Greek *th* did ever become Gothic *d*. Nay, we must go further and say that no Gothic *d* ever became a High-German *t*, as little as High-German *t* ever became a Gothic *d*.

Nebeneinander and Nacheinander.

The fact is that what Grimm called *Lautverschiebung* has nothing to do with Phonetic Change, but is simply and solely a case of Dialectic Growth.

Grimm looked upon *Lautverschiebung* as the result of a phonetic change, which took place very gradually. He actually fixed the beginning of the first change, the Gothic, about the second half of the first century A. D., and supposed that it was carried

through in the second and third centuries. More towards the West of Europe, he says, it may have commenced even at an earlier time, and have been succeeded by the second change, the Old High-German, the beginning of which is difficult to find, though we see it developed in the seventh century.[1]

There is one very plausible argument in support of this theory that the changes from *d* to *t* and from *t* to *z* were historical changes, following each other in regular succession, and that the first change from the classical to the Gothic stage took place about the second half of the first century after Christ, and the second change from the Gothic to the Old High-German stage about the sixth or seventh century. It is said that the name of *Strassburg* occurs in Gregory of Tours[2] (died 594) as *Stratáburgum*; in the Geographer of Ravenna,[3] in the middle of the seventh century, as *Stratisburgo*; whereas, in the eighth century, it has been changed into *Strazpuruc*. It is supposed, therefore, that, from the middle of the seventh to the middle of the eighth century, the third change took place, all *mediæ* becoming *tenues*, all *tenues* becoming *aspiratæ*, and all *aspiratæ mediæ*. Now does anybody really believe that, some day or other, the people of Strassburg became aware that they called their town no longer *Stratáburgum* but *Strazpuruc*, and that accordingly they changed the name in all official documents? Is there not a much more simple explanation, viz. that about the eighth century the High-German races became gradually

[1] Grimm, *Geschichte der Deutschen Sprache*, i. p. 437.
[2] *Hist. Franc.* ix. 36; x. 16. [3] 231, 7; 232, 2.

more preponderant in Germany, whereas the Low-German tribes, the Goths and Saxons, in particular, disappeared more and more from the political and literary stage? In the famous Oath of Strassburg (A.D. 842) we still meet with such Low-German forms as *dag, godes, thing*. These High-German races, during their intercourse with their Low-German neighbours and enemies, had naturally become aware of the fact that, whenever they pronounced *t, d, z*, their neighbours pronounced *d, th, t*, and the same in the guttural and labial series. Under such circumstances a kind of habit became established, which led the speakers of High-German to replace without any conscious effort the sounds of Low-German by the corresponding sounds of High-German, and *vice versâ*. We can watch the same curious process even now, when we try to speak a foreign language, and particularly when, while speaking High-German, we try to express ourselves in Low-German.[1] Certain phonetic rules become established in our mind, which we obey without being aware of it. Thus, if the High-German tribes of the Frankish empire had once become impressed with the general idea, that where their Low-German predecessors or neighbours said *k, t, p, g, d, b, h, th, f*, they always said *ch, z, f, k, t, p, g, d, b*, nothing was more natural than that they should apply the same rule to foreign words which they heard either from their Low-German compatriots or

[1] A child which pronounced all *r*'s as *l*'s was taught after some time how to pronounce the *r*. The result was, that it pronounced new words which really began with *l* with *r*, saying *rong* instead of *long*, &c. In Gaelic *Pascha*, Easter, is *Caisg*, in Welsh *Pasg*.

from the Roman provincials. Over and over again they had observed that, where in Low-German there was a *t*, there was in their own language a *z*; therefore, when they received a foreign word like *Strataburgum*, they at once received it on the same terms, and changed *Strata* to *Strâz*. The second word was really German, and it would therefore at once be replaced by the High-German *puruc*. The same process is repeated in many foreign words which Old High-German borrowed either directly from Latin or indirectly from Low-German.[1] Thus *pondus* is in Gothic *pund*, in O.H.G. *phunt*; *sinapi*, G. *sinap*, O.H.G. *senaf*; *persicum*, O.H.G. *phersich*; *cuprum*, O.H.G. *chuphar*; *strata*, O.H.G. *strâza*; *Turicum*, O.H.G. *Zurich*; *tegula*, O.H.G. *ziegal*, &c. It is curious that O.H.G. *zins*, the Latin *census*, should in Old Saxon appear as *tins*. It is by no means necessary to suppose that these foreign words should all have passed through a Gothic channel before they reached Old High-German. Such a view would be necessary only if we looked upon Old High-German as the offspring of Gothic. All that is really required for the explanation of the change of Latin words in Old High-German is to admit that the High-Germans possessed a phonetic sentiment which would lead them at once to translate any foreign *t* by *z*, *d* by *t*, *th* by *d*, and which therefore would make them adopt *Strataburgum* as *Strazpuruc* without a moment's thought as to whether it was originally a Latin or a Low-German word, being satisfied

[1] See W. Wackernagel, *Die Umdeutschung fremder Wörter*. Basel, 1862.

that, before it should enter into High-German, it would have to submit to the same rules to which all other words seemed to have submitted.

And if on these grounds I feel convinced that the consonantal system in High-German had become settled long before the seventh century, I feel equally certain that the consonantal system of Gothic does not date from the first century of our era only. We have no reason to suppose that what is called the classical system, or the first stage in Grimm's Law, prevailed at any time in Gothic. The interesting researches of Dr. W. Thomson[1] have at all events established this fact, that at a much earlier period, when we see Low-German dialects, in some respects more primitive than Gothic, reflected on the surface of the Finnish language, their consonantal system was the same as at the time of Ulfilas.

When we compare, for instance, *ten*, the A.S. *tên*, with Sanskrit dasan, Greek δέκα, Latin *decem*, we have no right to look upon *ten* as the result of phonetic corruption or decay. *Ten* may be called a phonetic corruption of a Teutonic typical form *tehun* (Gothic *taihun*), but *tehun* has as much right as Sanskrit dasan, so far as its consonantal structure is concerned. The loss of the medial *h* in *tehun*, which represents an original *k*, is no doubt due to laziness of pronunciation. But not so the *t* in place of *d*, or the *h* in place of *s*. These can be treated as dialectic only, i. e. as one out of many possible ways of permanently fixing the Aryan numeral *ten*, the pro-

[1] *Über den Einfluss der Germanischen Sprachen auf die Finnisch-Lappischen.* Halle, 1870, p. 124.

nunciation of which must have varied from the first in various families, tribes, and nations, as we see it at the present day among tribes not united as yet by a common literature, whether in Africa, America, or Australia.

Grimm's Law in Africa and Polynesia.

In Africa, for instance, we have what is meant by Grimm's Law quite as much as in Europe. The various members of the Bântu family stand to each other very much in the same relation as Greek and Gothic. They share a large capital of words and forms in common, but they have at the same time diverged so much that even the members of the South-Eastern Branch of the Bântu family of speech, the *Setshuâna*, *Tekeza* and *Zulu Kafir*, are now mutually unintelligible. As to deriving one from the other, it is impossible. They must therefore be treated as three independent varieties. And what do we see? Just what we see in Greek and Gothic. When Kafir has *nasalised tenuis*, Setshuâna has the *aspirate*, Tekeza *nasal* only or *spiritus asper* or *lenis*.

Kafir	nk	nt	mp
Setshuâna	kh	th	ph
Tekeza	' or h	n	m

There are exceptions, but Bleek, like Grassmann and Verner, has been able to account for most of them.

Secondly, a nasalised *media* in Kafir and Tekeza appears as unnasalised *tenuis* in Setshuâna.

Kafir and Tekeza	ng	nd	mb
Setshuâna	k	t	p

Thirdly, the nasalised *v* of Kafir and *f* of Tekeza (sometimes *z*) is represented in Setshuâna by *p*.

Kafir	mv	nz
Tekeza	nf	mf
Setshuâna	p	p

Fourthly, *k*, *t*, *p* in Kafir are represented in Setshuâna by χ, *r*, *h* (the *r* being probably akin to *z*), while the other cognate languages follow this rule:

Kafir	k	t		p
Sesuto	ĥ	} r	{	f
West Setshuâna	χ			h
Tekeza	k	}	{	' or h.

For further information on this subject I must refer to Bleek's *Comparative Grammar* and to his article *On Grimm's Law on South Africa*. It is curious that he too labours under the impression that some of these consonants must be looked upon as more primitive than others, and that therefore *k* is derived from *ng*, *r* from *t*, and not *vice versa*. But though this may be so in phonetic theory, it is not always so in historical truth, and Dr. Bleek has to confess, as we have, 'that there are instances in which we are not quite certain of the direction which the current of transmutation has taken, and some in which it is quite possible that the different sounds occurring in the South-Eastern Branch languages are to be deduced, not from each other, but from a primary form which is now only met with in other Bântu languages. Thus, when a Kafir *z* corresponds to a Tekeza *t*, and to a Setshuâna *ts* or χλ—to which are we to give the palm of priority?' Is this not exactly the same as when we have to say, 'When an Old

High-German *z* corresponds to a Gothic *t*, and to a Sanskrit *d*—to which are we to give the palm of priority?' Phonetically it may be to *t*, but historically to none, because each represents an independent phase in the settlement of the language, such settlement taking place in different localities, and at different times, and, at all events in the beginning, not *nacheinander*, but *nebeneinander*.

And not in Africa only, but wherever language can still be watched in its dialectic growth, phonetic phenomena which can be called by the name of Grimm's Law have been discovered. Dr. Pope has an article in the *Indian Antiquary* (1876, p. 157) on Grimm's Law as between Tamil and Kanarese, and changes analogous to the same Law and exhibiting the unsettled phonetic state of language previous to its being reduced to writing have been carefully described in Codrington's *Melanesian Languages* (1885), pp. 193–219.[1]

Of course, phonetic rationalists will say: Surely, there must have been one primitive form for each word, and in this primitive form each consonant must have been fixed. If therefore there was an Aryan word for *ten*, its consonantal skeleton must have been D-K-N, which afterwards sank down in Gothic to T-H-N, in Old High-German to Z-H-N. But where is the *must*? First of all, the change of D to T, and of D to Z is in no sense of the word a sinking down, a weakening, or a corruption. Not

[1] See also Hale's *Polynesian Grammar*, p. 232. The New Zealand *poe* is represented by *foe* in Tonga, just as Sk. *pati* is represented in Gothic by *fath-s*.

even if we thought that the Old High-German form passed through an intermediate Gothic stage, would the change of T to Z be a corruption in the strict phonetic sense of the word. It involves no lightening of muscular effort, which is at the root of nearly all that is called phonetic corruption. But why should D-K-N be considered as the primitive form? Because it occurs in a majority of the Aryan languages? Fortunately majorities do not yet rule supreme in the Science of Language, which has often succeeded in discovering in one lonely so-called anomalous form the legitimate heir of a long line of ancestors.

But let us take another word. Was the Sanskrit root BHAR more primitive than Greek PHER? Were both Greek φέρω and Latin *fero* really derived from Sanskrit bharâmi? And if not, why should Gothic *bairan* be an offshoot either of Sanskrit bhar, or of Greek and Latin *fer*, or possibly, like advimâtar, of both? Again, when Gothic *bairan* stands to Sanskrit bhar, exactly as O.H.G. *peran* does to Greek *pher*, why should O.H.G. *peran* be derived from Gothic *bairan* and not from Greek *pher*?

Perhaps most scholars would be inclined, after a little reflection, to yield with regard to Gothic, and place it on a level with so-called classical languages, whether Sanskrit, Greek, or Latin. They would admit that the tenues are as good as the mediæ, the mediæ as good as the aspirates, whether surd or sonant, and that the aspirates or breathings are as good as the tenues.

Was High-German derived from Gothic?

But no such privilege is to be granted to High-

German. It is to be treated as a secondary language, as a corruption of Gothic, or at all events of some form of Low-German. Why is that? Attic is more modern, and in many respects more corrupt than Doric. Does any scholar derive Attic from Doric? Is Welsh derived from Irish, or Spanish from Italian? Not even *amado* can be treated as a corruption of *amato*, though both presuppose a Latin *amatus*. What has the date of a literature to do with the age of a language? If High-German had come to our knowledge for the first time in Hebel's *Allemannische Gedichte*, that would not make it modern as a language. The gradual spreading of High-German goes hand in hand with the spreading of High-German influence, whether political, religious, or literary. Whether it began in the fifth, or sixth, or seventh[1] century, it is still going on in the nineteenth. Braune (*Beiträge*, i. 1–56) tells us that the High-German change started from Oberdeutschland and spread northward, the first and most vigorous stage going furthest, the others getting weaker successively. Under the first stage he comprehends the change of *t* into *z*, of *p* and *k* after vowels into *f* and *ch*; under the second the change of *p*'s, which had still been preserved (when initial, medial after consonants, and if strengthened) into *ph*, rarely into *f*; under the third the affrication of *k* and the change of the two remaining *mediæ* into *tenues*. He maintains that in Oberdeutschland the change in all its three stages is anterior to any of our literary documents, in Franconia the first stage completely so, while the second

[1] Scherer, *Geschichte der Deutschen Sprache*, 1868, p. 63. See *Die Sprache Deutschlands*, von P. Piper, 1880, i. 223.

can still be watched, and the third has never reached so far. The transition of *th* to *d*, he thinks, can be followed historically over the whole of Germany. In Oberdeutschland *th* vanishes in the second half of the eighth century, in East Franconia, saec. ix. init., in South Franconia, saec. ix. med., in Middle Franconia still later, and so likewise in Low Franconia.

All this may be perfectly true, though the evidence is naturally very uncertain and fragmentary. But, if it is true, it proves no more than that certain phonetic changes rise to the surface at certain times, and reach certain literary and political centres at certain periods. It proves in no way that they spring into existence at the very moment when for the first time they become visible to us.

In order to give an idea of the artificial contrivances which have to be resorted to if the changes comprised under Grimm's Law are to be accounted for by the phonetic character of each letter, I shall give a few specimens of the more important theories.

Grimm thought that the change began with the mediæ. Bopp thought that it began with the tenuis, which became an aspirate and an aspirate a media. When more minute physiological reasons were looked for to account for these changes, the great difficulty was, of course, to find out what exact sound was meant to be expressed by each letter in different MSS. of different writers in different parts of Germany and at different times. Always starting from the conviction that a *t* became a *th* (z) and a *th* (z) a *d*, Raumer held that the aspirates contained a check and an aspiration, and that therefore when the pure spirant

had been reached (F and ea H) no further advance was possible. Hence he though[t] o[f] it was that Gothic *f* remained O.H.G. *f*, Gothic *h* C[o]t[h]. H.G. *h*, while Gothic *th* varied between *th*, *dh*, and *d*. [up]Between *kh*, *th*, *ph*, and *g*, *d*, *b*, he admitted an interme[d]iate stage, *gh*, *dh*, *bh*, and he looked upon the reinforcing [pro]of simple tenues and the vanishing of the aspiration in as[pi]rates as the motive power of the whole process. [Grim]'s.

Curtius ascribed the initiation of *Lautverschiebung* to the aspirates, which were changed into either [ten]mediæ (Gothic) or tenues (O.H.G.). But when he asc[ribes] these consonantal changes to 'vigour, boldness, and youthful energy,' he is simply dealing in phonetic mythology, like many of his successors. If the change of *d* into *t*, and possibly even of *t* into *th*, is youthful and vigorous, what is the change of *th* into *d*?

Scherer introduced still greater refinements, all based on the supposition that phonetic changes take place by slow degrees, and become more intelligible if we can account for every one of the minute degrees of change through which they passed. From a purely physiological point of view, such analytical researches are very useful, but as explaining an historical process they seem to be of very little help. I shall give one instance only. In order to explain the transition from Gothic *th* into O.H.G. *d*, Scherer writes: 'It is more important for us to define as accurately as possible the pronunciation of the *dh*, which lies beyond the O.H.G. *d*, and the nature of this transition. We have here no other guide but English analogy. English s^4 (surd *th*) is a pure spirant, English z^4 (sonant *th*) is often sounded with a slight initial check, as $d^4\, z^4$.'

I doubt the fact, if Scherer means that there is more of *d* audible in *thou* than of *t* in *thin*. But granting it, what should we gain?

Scherer continues: 'This occasional, allowable, but not necessary check will be admissible likewise in the character of our O.H.G. *dh*. Nay, we may see in it, with Raumer, the very germ of the change, so that theoretically the sound to be changed would have to be represented by $d^4\ z^4$ (*ddh*). Hence it is not the spirant itself which is changed immediately into a media, but because the sonant spirant likes to take the support of a slight check, it might happen that this check was again deprived of the accompanying fricative sound.'

All this is very ingenious physiologically, but for our own historical purposes we gain nothing from it. Are we to suppose that one person, when he was a boy, said *th*, when a man, *dh*, and *ddh*, and when an old man, *d*; or that one generation said *th*, the next *dh*, the next *ddh*, the next *d*? Scherer himself shrinks from that conclusion, for he writes: 'We must not look upon s^4, z^4, $d^1\ z^4$, and *d* as four stages in a race-course, which had needs to be traversed before the poor hunted sound could find rest. $D^4\ z^4$ may have been heard occasionally from the very first, after z^4 existed, and z^4 may have been heard occasionally to the very end, so long as there was $d^4\ z^4$. Nay, from the beginning of the softening (becoming sonant) of *th* (s^4) till the accomplishment of the change into *d*, the relation of the pronunciation $d^4\ z^4$ to the pronunciation z^4 was probably unchangingly the same, and the former need not have preponderated. If images could clear up

anything, I should say: the media hovers unseen over the sonant spirant, and may appear at any moment; and for that very reason it belongs to the nature of that sound.'

I do not think that all this, not even the imagery, carries us further than the fact that instead of Gothic *th*, some Old High-German writers at different times and in different localities tried to indicate the sound which they heard, and which we ourselves shall never hear, by *th*, *dh*, and *d*, and that we may gather from their way of writing, that initially they heard some kind of aspiration besides the *t* or *d*, while medially that aspiration was not perceived, and therefore not written by them. As these attempts at writing what they imagined they heard, were the work of individuals, we shall be much more justified in looking upon the changes which they tried to express in writing as scattered links of a lost chain than as representing what are called the slow and imperceptible degrees of transition in the same effort of pronunciation. Nothing is so fatal to all sound reasoning as this idea of minute and imperceptible degrees of transition. Everything can be explained by minute and imperceptible degrees of change, only we find that these imperceptible or almost imperceptible degrees of change produce in the end no perceptible result whatsoever.

It does great credit to Mr. Sweet's acumen as a phonetician that he formerly perceived this fallacy of imperceptible transition. In his *History of English Sounds* (p. 18) he says: 'From this we can easily deduce another law, namely that the changes in early

languages are not gradual, but *per saltum*. A clear appreciation of this principle is of considerable importance, as many philologists have assumed that in such changes as that of a back into a front consonant (Sanskrit k into *k*) the tongue was shifted forwards by imperceptible gradations.'

Exceptions to Grimm's Law.

Grimm's Law is not without exceptions, but fortunately they are exceptions which prove the rule, that is to say, which can be accounted for from the very nature of the rule.

Lottner.

It was Lottner who in Kuhn's *Zeitschrift*, xi. 161, brought the first powerful indictment against Grimm's Law, showing numerous cases and whole classes of cases in which it failed to act. Some of them had been pointed out by Grimm himself, more particularly with regard to Old High-German. Here, in fact, the exceptions were almost as numerous as the regular changes. Taking the texts of Isidorus, Otfried, and Tatianus as the principal representatives of Old High-German, Grimm constructed a table showing the different ways in which the *Lautverschiebung* was carried out by them.

Goth.:	B	P	F	G	K	H	D	T	TH
Strict O.H.G.:	P	PH	F![1]	K	CH	H!	T	Z	D
Isidor, init.:	B		F	G	CH	H	D	Z	DH
med.:	B	F	V	G	HH	H	D	ZS	DH
fin.:	P	PH	F	C	H	H	T	ZS	DH

[1] The sign ! shows that the Lautverschiebung stops in Gothic.

Otfried, init.:	B	PH	F	G	K	H	D	Z	TH
med.:	B	F	F	G	CH	H	T	Z	D
fin.:	B	F	F	G	H	H	T	Z	D
Tatian, init.:	B	PH	F	G	K	H	T	Z	TH
med.:	B	PH	V	G	HH	H	T	Z	D
fin.:	B	PH	F	G	H	H	T	Z	D

Grassmann.

The first, however, to eliminate or account for a number of these anomalies, as pointed out by Lottner in the working of Grimm's Law in Gothic, was Grassmann. In the twelfth volume of Kuhn's *Zeitschrift* (1863) he undertook to prove that though it had been accepted as a fundamental principle that no Aryan roots could begin and end with an aspirate, there must once have been a whole class of roots beginning and ending with aspirates. He did not succeed in proving this. What he really did prove was no more than that there were certain roots in which the aspiration might affect either the first or the last consonant, and that in that case the consonant left without the aspiration would be either a tenuis or a media in Greek; a tenuis, when in the first, a media, when in the second place; in Sanskrit, always a media.

The principle, therefore, that Aryan roots cannot in actual use end and begin with aspirates remains untouched. It is evidently a principle which rests on some general phonetic foundation, and which shows its influence in various ways. For instance, when a root beginning with an aspirate has to be reduplicated, the aspiration is dropt, as in Greek τί-θημι, in Sanskrit da-dhâmi. Intensive forms, such as bhari-bhar, are no exceptions; the exception is rather in danî-dhvams.

In Sanskrit all roots ending in gh, *dh*, dh, bh, or h, and beginning with g, *d*, d, or b, aspirate the initials, if the finals lose their aspiration. Thus duh becomes dhuk, budh becomes bhut. And this takes place also before certain terminations beginning with dhv, bh, and s, so that we get bhut-su for budh-su, abhud-dhvam for abudh-dhvam. In Greek the same tendency manifests itself in words beginning with τ or θ, so that we have ταφός, grave, ἐτάφην, but θάπτω; τρίχες, but θριξί, &c. In Latin, on the contrary, forms like *fefelli*, in Gothic like *haíhalt*, are tolerated.

In Gothic, however, we meet with a number of roots beginning and ending with *mediæ*. These roots in Gothic cannot be looked upon as having passed through a previous Sanskrit or Greek stage. They must be looked upon as independent, though parallel forms, and as having escaped the penalties inflicted on two successive aspirates in Sanskrit and Greek, because they never had aspirates, but mediæ as initial and final letters.

Taking, for instance, the Gothic *deiga*, πλάσσω, to form, we should require for it a Sanskrit root DHIGH, with initial and final aspiration. Such a root does not and cannot exist. But there is the root DIH, which has in the present deh-mi, I form, but dhekshi, thou formest, the aspiration being thrown on the initial, when lost in the final.

We might thus admit two forms of this root, DIH and DHIG. If we translate the former into Greek we get tenuis, vowel, aspirate, ΤΙΧ, from which τοῖχος; if we translate the latter, we get ΘΙΓ, aspirate, vowel, media, in θίγγανω, Latin *fing-o*. According

to this rule Grassmann helps us to account for a whole class of exceptions in Gothic where we find two mediæ corresponding to Sanskrit media and aspirate.

With regard to Greek it should be borne in mind that it possesses a number of roots in which media and aspirate vary, though both correspond to a Sanskrit aspirate. Thus we have Sk. STAMBH, to stamp down, to fix, *στέμφ-υλον*, stamped or pressed olives or grapes, *ἀστεμφής*, untrodden, unshaken, *στόμφος*, scoffing; but also *στέμβω*, I shake, *στοβέω*, I scold.[1] Likewise:

Sk. búdhna, bottom; *πυθμήν* and *πύνδαξ*, bottom of vessel.
Sk. ARDH, to thrive, to grow; *ἀλθαίνω*, I heal, pass. I become healed, and *ἀλδαίνω*, I make to grow.
Sk. Amhú, narrow; *ἄγχω* and *ἐγγύς*.

In other cases the media prevails altogether in Greek.

Sk. kúmbha, jar; *κύμβος*.
Sk. LABH; *λαμβάνω*, *λαβεῖν*.
Sk. VARDH, to grow; *ῥίζα* for *Fριδ-ja*, radix, Goth. *waurt-s*, root.
Sk. BHRAM; *βρέμω*, but *fremo*.
Sk. *aham*, I, Greek *ἐγώ*; Goth. *ik*.
Sk. *mahát*, great, Greek *μέγα*; Goth. *mikil*.

The following are the principal words in which, according to Grassmann's Law, double media in Gothic can be accounted for:

Sk. GARDH, Goth. *grêdus*, hunger, greed; also Russ. *golod*.
Sk. DABH, *τυφ-λός*, G. *daub-s*, *dumb-s*.
Sk. DAH, to burn (*ταφ*, *θάπτω*), G. *dag-s*, day; A.S. *dæg*, O.H.G. *tac*; also *to dawn*, A.S. *dagian*.

[1] Translation of *Rig-veda*, i. p. ci. Brugmann, *Grundriss*, § 469, 8.

Sk. DIH, see above.
Sk. DUH, to milk, *θυγάτηρ*, G. *dauhtar* (h for g); also *daug*; Lith. *dukte*.
Sk. DRUH (Zend drug), *θέλγω* (?), Old N. *draug-r*, goblin; Old Sax. *be-driogen*; O.H.G. *triugu*; also Celt. *drog*.
Sk. BANDH, to bind; *πενθερός*, *πεῖσμα*, cable; G. *binda*, I bind; *bandi*, bond.
(BIDH) *πείθ-ομαι*, *πίστις*; *fĭdes*, *fidus*, *fœdus*.
Sk. BARH, to make strong; G. *bairgan*, *φυλάσσω*, *bergen*; *bairga*, mountain, in *bairga-hei*, mountain-place.
Sk. Bahú-s, *παχύς*, thick, strong, *big*.
Sk. Bâhú-s, *πῆχυς*.
Sk. BHUG, *φεύγω*, *fugio*; G. *biuga*.
Sk. BUDH, *πυνθ-άν-ομαι*, *πεύθομαι*, G. *anabiudan*, to bid, *faur-biudan*, to forbid; also Russ. *budit'*.
Sk. Budhná-s, *πυθ-μήν*, *fundus*, Old S. *bod-m*, O.H.G. *bodam*, bottom.

Grassmann extends his principle even further. There are several roots in Sanskrit, beginning with a surd aspirate kh, *kh*, ph, which presuppose earlier forms beginning with sk, *sk*, sp, changed to skh, *skh*, sph, and then to kh, *kh*, ph.

Thus KHAN, to dig, is rightly traced to a more primitive SKAN and SKÂ, of which traces remain in Zend skyaiti, he cuts, Greek *σχάω*, I slit. Without the *s* the root KAN would explain *can-alis*, what has been dug, a ditch.

In the same manner then, *KH*ID, to cut, presupposes a root *SK*ID, Zend *sk*id, Lat. *scindo*, but Greek *σχίζω* for *σχιδ-jω*. Now, in Gothic we have *skaidan*, to separate, and the question is, why should Gothic *d* represent Greek *d*. The *k* does not change, because it is protected by the *s*, but the *d* remained unchanged, because it represents an original *dh*, which only became *d* in Sanskrit after *k* had become *kh*, thus

necessitating the change of aspirate into media in the final consonant. Another instance is *KHAD*, to cover, instead of SKAD, or more originally SKADH, Zend *skad*, which Grassmann recognises in Goth. *skad-us*, shade, A.S. *sceadu*, accounting again for the irregular *d* as representing a more original final *dh*. It is true that this last application of Grassmann's theory has not been generally accepted. Still there is no better one to take its place.

Verner.

There still remained, even after Grassmann's explanations, a whole class of exceptions in Gothic which seemed to defy all reasoning. Why, for instance, should Sanskrit pitar be Gothic *fadar*, A.S. *fœder*, and Sanskrit mâtar, A.S. *môdor*, while Sanskrit bhrâtar appears rightly as Gothic *brôthar*, A.S. *brôthor*? This was a very old *crux* to comparative philologists, and though there were not wanting explanations of the phonetic process leading by imperceptible degrees from *t* to *th*, *dh*, *d*, or from *t* to *th*, which became divided into *th* and *d*, the real *causa mali* was left as dark as ever. Verner (*K. Z.* xxiii. p. 102) by simply placing the Vedic accents on pitár, mâtár, bhrấtar, solved the problem, and came to the conclusion that whenever the old Vedic accent was on a vowel preceding the Sanskrit *tenues*, they had their regular Gothic representatives, namely *h*, *th*, *f*; while, if the accent was not there, they appeared in Gothic as *g*, *d*, *b*. The same law applies to *s* in its relation to *r* (*z*). Certain compound

letters, such as *ht*, *hs*, *ft*, *st*, *sk*, *sp*, *ss*, are always excepted.

Thus Sanskrit sap(t)án, seven, having the accent on the second a, at least in the Veda, appears as *sibun* in Gothic. Sanskrit sasá, hare (for sása), is *hara* in Anglo-Saxon. Sanskrit snushâ appears as *snoru*, but Sanskrit mûs remains in A.S. *mûs*, Sanskrit nâsâ is A.S. *nosu*.

Still more important than these coincidences in single words are the traces of the working of the same law in several grammatical formations. If in Sanskrit the accent remains on the root-syllable of a verb, the final tenuis of that syllable in Low German takes aspiration; if, on the contrary, the accent in Sanskrit falls on the termination, the final consonant in Low German is media. In Gothic this change is but rarely observed, but in Anglo-Saxon we have

from cweðan,	praet.	cwæð,	plur.	cwǽdon,	part.	cweden.
sleán,	„	slôh,	„	slôgon,	„	slagen.
teón, for teóhan,	„	teáh,	„	tugon,	„	togen.
ceósan,	„	ceás,	„	curon,	„	coren.

This change which was formerly explained from a preference for aspirates as final and of mediæ as medial, Verner traces back to the old change of accent in Sanskrit, where the three persons of the singular in the reduplicated perfect have the accent always on the radical syllable, in the plural on the termination; thus giving us bibhéda, but bibhidimá.

The termination ta of participial adjectives has in Sanskrit the acute. Hence sru-tá, heard, *in-clutus*, κλυτός, A.S. *hlûd*, loud.

Again, all causative verbs in Sanskrit have the accent on the causal suffix, bhâr-áya, ved-áya, &c. In Low German, except again in Gothic where the aspirate prevails by false analogy, the final tenues of causal verbs have become media. Thus from *lîthan*, to go, A.S. *lǽdan*, to lead; from *nesan*, genesen, A.S. *nerjan*, to save.

Feminines in Sanskrit take the accent on the feminine suffix î, e. g. mátsya, fish, matsî, tákshan, carpenter, takshnî, bhártar, supporter, bhartrî. Verner traces the influence of this Sanskrit accent of feminine suffixes in O.N. *ylg-r*, a she-wolf, representing a German form *wolgja*, as against *wolhwa*, Goth. *wulf-s*.

He likewise accounts for the change of many verbal terminations beginning with *t* in Sanskrit, and showing *d* in Low German by the fact that the accent in Sanskrit is always on the radical syllable, never on the vowel immediately preceding the *t*. Hence Goth. *bairada* = Sanskrit bhárate; Goth. *bairaidau* = Sanskrit bháreta; Goth. *bairanda* = Sanskrit bhárante; while Goth. *bairaza*, 2 p. sing. pres. ind. passive = Sanskrit bhárase.

As all past participles in Sanskrit have the accent on tá, it follows that in Gothic we must have *da*. Hence Gothic *tami-da*, = Sanskrit dami-tás (dântás), domitus.

The abstract suffix ti in Sanskrit has sometimes the accent, sometimes not. In Gothic we find corresponding to it either *thi* or *di*. But of the other abstract suffixes, tâ is always without the accent, while tvá has the accent, and so we find in Gothic *tha*

for tâ (*diupitha*, depth), but *dwa* for tvá (*thiwadva*, servitude).

The change of accent between words such as mánas and sumanás, μένος and εὐγενής, is equally reflected in German, and even the *r* in *better*, Goth. *batizan*, owes its existence to the fact that the accent of comparatives and superlatives in Sanskrit is always on the first syllable.

Of course, there are exceptions to all this, arising chiefly from what is called false analogy, but which is often a very legitimate desire for uniformity. The *s*, for instance, of the nom. sing. becomes *z* or *r* throughout, even where the accent would require an *s* (O.N. *ulf-r*, wolf), because it would not do to have two terminations of the nom. sing.

It is very important also to remember that in many cases it is doubtful where the accent was in Sanskrit, and that in Sanskrit itself the accent often changes between old and new texts. Thus Sanskrit páti ought to be Gothic *fathi*, but it is *fadi*. Sanskrit katará ought to be Gothic *hwadar*, but it is *hwathar*. Here the accent may originally have been on the first syllable, as it is in ántara and úttara. As it is, Gothic *hwathar* corresponds to Ionic κότερος.

Still, on the whole, Verner's observation cannot be questioned, and it only remains to ask, how it can be accounted for. It is clearly a case of phonetic, not of dialectic change. We see here cause and effect, even though we do not know how the two hang together. Verner thought that the accent, being in Gothic no longer pitch only, but already stress, involved a more powerful action of the breath, and that, as in pro-

nouncing surd consonants the breath comes out more powerful, while in pronouncing sonant consonants it is much weaker, therefore the powerful breath of the accented vowel favoured surd consonants, while the moderate breath of the unaccented vowel would harmonise better with sonant letters (l. c., p. 116).

This may be so, but one cannot help asking, why the strong accent should only influence a succeeding, and not a preceding consonant? We are told that this is so, because the t in bhrất-ar belongs to the first syllable, while in mâ-tár it belongs to the second. If that were the case, if the accent attracted the t towards the first syllable and made it in a certain sense final, then this might possibly supply an explanation of Verner's Law, that is to say, of the fact of *th* being preserved in A.S. *bróth-or*, and changed into *d* in A.S. *mô-dór*. Consonants, if final, often prefer aspiration at the end of words, while they are without it, if medial. Thus we have in Gothic *hlaif* from *hlaib*, *grôf*, but *graban*, *gaf*, but *giban*.

Paul's Law.

What adds some weight to this theory is the fact that another change in the Teutonic languages which has first been observed by Paul and Kluge, admits of a very similar explanation. We find that in Teutonic words an *n*, following an original *k*, *h*, *t*, *p*, and *l*, is assimilated by these consonants, unless the accent was on the preceding vowel. Thus Aryan *ák-na* and *ágh-na* would in Teutonic appear as *áh-na* and *ág-na*, and remain so. But *ak-ná*, *agh-ná* would appear as *ah-ná* and *ag-ná*, both forms would then be assimilated as

ag-gá, and, what is even more peculiar, they would in the end appear as *ak-ká*. This rule is supposed to account for the following apparent exceptions to Grimm's Law :—A.S. *liccian*, as compared with Sanskrit lih, to lick, Gothic *laigôn*, intermediate form *lig-ná*; A.S. *full*, Sanskrit pûr-*ná*, intermediate fol-ná.[1] If, on the contrary, the accent is not on the vowel following the *n*, we find no assimilation, but A.S. *swefn*, Sanskrit svâp-na, sleep; Gothic *auhn-s*, Sanskrit ásna, stone, oven. As in these cases the accent on the first syllable seems to have produced a kind of stop, and thus to have protected the *n* from being combined and assimilated, it may have done the same in Goth. *brôth-ar*, while in A.S. *mô-dór* the *d*, as standing between two vowels, was voiced.

However, even though we may not be able to discover the reason, the fact remains that in a large number of cases, we may actually conclude backward, so that if, under the circumstances described, a Sanskrit tenuis appears in Gothic as aspirate, it would follow that the accent was on a preceding vowel, while, if it appears in Gothic as media, the accent could not have been there. It is a strange fact, if we consider that the motive power, the old Vedic, or, it may be, Aryan accent, had been changed already in post-vedic Sanskrit, that it was greatly modified in Greek and Latin, that in the Teutonic languages we knew nothing of it, that yet the difference between *dead* and *death* in English, between *ziehen* and

[1] In Sanskrit, ûrnâ has the accent on the first syllable, and ought therefore to have been *wulna* in Gothic, *wulne* in Anglo-Saxon, instead of *wulla* and *wulle*.

gezogen, also of *schneiden* and *geschnitten* in German, should be determined by it.

Reason of Change.

We had laid it down before as a general principle that all change in language is due either to Dialectic Growth or to Phonetic Change, taking both words in their widest sense. If that is so, and if we ask now once more to which of these two causes the changes pointed out by Grimm, Grassmann, and Verner have to be assigned, our answer must be that the changes pointed out by Grimm and Grassmann have to be ascribed to Dialectic Growth, while the exceptions comprised under Verner's Law can only be considered as the result of Phonetic Change, so far as that change is determined by what we called phonetic idiosyncrasies. Those who imagine that they can explain the *Lautverschiebung* as a *Nacheinander*, as a phonetic change of *t* to *th*, of *th* to *d*, and of *d* to *t*, must ascribe to the Germanic tribes the most extraordinary perversion both of ear and of tongue. It is one thing to start from undifferentiated sounds and to differentiate them dialectically; it is quite another to start from a sound already differentiated, and then to change it in the same dialect in such opposite directions as *d* to *t*, *t* to *th*, and lastly *th* to *d*. Phonetically, no doubt, everything can be explained; historically such cross-purposes in language are impossible.

Assibilation and Labialisation of k, g, gh.

In explaining the changes comprehended under the general name of Grimm's Law, I have not alluded to

the discoveries of Ascoli, Fick, and others as to the two or three classes of *k*'s in the Aryan languages. I have treated all *k*'s as belonging to one and the same class, though it is easy to perceive that they appear under very different forms in different branches of Aryan speech. If the changes which they undergo affected their mode of articulation (*Articulationsart*), it would have been necessary to take notice of them under the head of Grimm's Law. But as their changes are confined to the place of articulation (*Articulationsort*), it seemed better not to complicate the consideration of a phonetic process which, as I wished to show, is concerned exclusively with the dialectic variation between *tenuis*, *media*, and *aspirata*.

The facts with regard to the threefold nature of *k*'s, *g*'s and *gh*'s are shortly these:—

There are in the Aryan languages three kinds of *k*'s, *g*'s, and *gh*'s, which are generally designated as *palatal*, and *velar*, and to which a third class has to be added, which may be called simply *guttural*.

The palatal *k*'s may be defined as originally affected by a palatal glide, *ky*, the velar *k*'s as affected by a labial glide, *kw*, and the pure guttural *k*'s as unaffected by any glide.

In one division of the Aryan languages, viz. in Sanskrit, Zend, Lituanian, Slavonic, Armenian and Albanian the palatal *k*'s, *g*'s, *gh*'s (ky, gy, ghy) appear assibilated; in the other division, viz. in Greek, Italian, Celtic (Irish), and Teutonic, they appear as pure *k*'s, *g*'s, and *gh*'s without assibilation. Thus we find in the assibilating division: Sk. satam, Lit.

sziñta-s, in the non-assibilating division ἑ-κατόν, *centum*, Ir. *cét*, Goth. *hund*.

There is the second class of *k*'s, called velar, which in the non-assibilating division are labialised and dentalised, while they are not labialised or dentalised in the assibilating division. Thus we find in the non-assibilating division the base of the interrogative pronoun, in Greek, πο-, τεο-, τι-, Latin *quo*, Celtic *kwe*, Gothic *hwa*, in the assibilating division, Sk. ka, Zend *k*a, Lit. *ka*.

The general rule is that the assibilating languages do not labialise, and that the labialising languages do not assibilate their *k*'s, *g*'s, and *gh*'s.

There is, however, a third division of *k*'s which are consistently neither assibilated in the assibilating nor labialised in the labialising languages, though they show traces of these two affections in certain words. Many of the words which have hitherto been referred to this class, require to be carefully sifted, as they are not always cognate, but only similar in sound. Thus, as we find the *k* in Lituanian *kerpù*, to shear, unassibilated, it has been supposed that it ought to have been labialised in Greek καρπός, fruit, κρώπιον, sickle, and German *herbist*, harvest. But it has never been proved that καρπός and *herbist* are connected with *carpo*, to pull off. They are really derived from the root sar or sarp, to ripen, from which also *corpus*, and Sk. sar-îra. In κρώπιον, the labialising is prevented by purely phonetic reasons, viz. by the following *r*, and in *carpo*, if for *parpo*, by another purely phonetic influence, by dissimilation. Sk. k*ri*pâ*n*a, sword, is unconnected.

Brugmann treats all non-assibilating *k*'s as velar, even though they are not labialised. This is quite right in all cases where phonetic reasons have been discovered which prevent labialisation. We know, for instance, that initial velar *k*'s are not labialised, if followed by consonants or by dark vowels, except by false analogy.

But after making all these deductions, there remains still a residuum of words where a *k* is neither assibilated, though it were palatal, nor labialised, though it were velar. These indifferentiated or imperfectly differentiated *k*'s must be left for the present as constituting a separate class.

For fuller information on this interesting, but complicated question I must refer to Ascoli's *Fonologia*, 1870; Fick, *Die Spracheinheit*, 1873; Bersu, *Die Gutturalen*, 1885; Brugmann, *Grundriss*, 1886. A very painstaking and creditable contribution has lately been made by Miss Helen Webster in her *Doctor-dissertation, Zur Gutturalfrage im Gothischen*, Boston 1889.

APPENDIX.

ON WORDS FOR FIR, OAK, AND BEECH.

In the course of these illustrations of Grimm's law I was led to remark on the peculiar change of meaning in Latin *fagus*, Greek *phēgós*, and Gothic *bóka*. *Phēgós* in Greek means oak, never beech;[1] in Latin and Gothic *fagus* and *bóka* signify beech, and beech only. No real attempt, as far as I know, has ever been made to explain how the same name came to be attached to trees so different in outward appearance as oak and beech. In looking out for analogous cases, and trying to find out whether other names of trees were likewise used in different senses in Greek, Latin, and German, one other name occurred to me which in German means fir, and in Latin oak. At first sight the English word *fir* does not look very like the Latin *quercus*, yet it is the same word. If we trace *fir* back to Anglo-Saxon we find it there under the form of *furh*. According to Grimm's Law, *f* points to *p*, *h* to *k*, so that in Latin we should have to look for a word the consonantal skeleton of which might be represented as *p r c*. Guttural and labial tenues change, and as Anglo-

[1] Theophrastus, *De Historia Plantarum*, iii. 8, 2.

Saxon *féower* points to *quattuor*, and *fîf* to *quinque*, so *furh* leads straight to Latin *quercus*, oak. In Old High-German, *foraha* is *Pinus silvestris*; in modern German *föhre* has the same meaning. But in a passage quoted from the Lombard laws of Rothar, *fereha*, evidently the same word, is mentioned as a name of oak (roborem aut quercum quod est *fereha*), which shows that the radical vowel was *e*. Grimm, in his *Dictionary of the German Language*, gives *ferch*, in the sense of oak, blood, life.

It would be easy enough to account for a change of meaning from fir, or oak, or beech, to tree in general, or *vice versâ*. We find the Sanskrit dru, wood (cf. druma, tree, dâru, log), the Gothic *triu*, tree, used in Greek chiefly in the sense of oak, *drŷs*. The Irish *darach*, Welsh *derw*, mean oak, and oak only.[1] But what has to be explained here is the change of meaning from fir to oak, and from oak to beech—i. e. from one particular tree to another particular tree.

While considering these curious changes, I happened to read Sir Charles Lyell's new work, 'The Antiquity of Man,' and I was much struck by the following passage (p. 8, *seq.*):—

> The deposits of peat in Denmark, varying in depth from ten to thirty feet, have been formed in hollows or depressions in the northern drift or boulder formations hereafter to be described. The lowest stratum, two or three feet thick, consists of swamp peat, composed chiefly of moss or sphagnum, above which lies another growth of peat, not made up exclusively of aquatic or swamp plants. Around the borders of the bogs, and at various depths in them, lie trunks of trees, especially of the Scotch fir (*Pinus silvestris*), often three feet

[1] Grimm, *Wörterbuch*, s. v. 'Eiche.'

in diameter, which must have grown on the margin of the peat-mosses, and have frequently fallen into them. This tree is not now, nor has ever been in historical times, a native of the Danish islands, and when introduced there has not thriven; yet it was evidently indigenous in the human period, for Steenstrup has taken out with his own hands a flint instrument from below a buried trunk of one of these pines. It appears clear that the same Scotch fir was afterwards supplanted by the sessile variety of the common oak, of which many prostrate trunks occur in the peat at higher levels than the pines; and still higher the pedunculated variety of the same oak (*Quercus robur, L.*) occurs with the alder, birch (*Betula verrucosa, Ehrh.*), and hazel. The oak has in its turn been almost superseded in Denmark by the common beech. Other trees, such as the white birch (*Betula alba*), characterise the lower part of the bogs, and disappear from the higher; while others again, like the aspen (*Populus tremula*), occur at all levels, and still flourish in Denmark. All the land and fresh-water shells, and all the mammalia as well as the plants, whose remains occur buried in the Danish peat, are of recent species.

It has been stated that a stone implement was found under a buried Scotch fir at a great depth in the peat. By collecting and studying a vast variety of such implements, and other articles of human workmanship preserved in peat and in sand-dunes on the coast, as also in certain shell-mounds of the aborigines presently to be described, the Danish and Swedish antiquaries and naturalists, M.M. Nilson, Steenstrup, Forchhammer, Thomsen, Worsäae, and others, have succeeded in establishing a chronological succession of periods, which they have called the ages of stone, of bronze, and of iron, named from the materials which have each in their turn served for the fabrication of implements.

The age of stone in Denmark coincides with the period of the first vegetation, or that of the Scotch fir, and in part at least with the second vegetation, or that of the oak. But a considerable portion of the oak epoch coincided with 'the age of bronze,' for swords and shields of that metal, now in the Museum of Copenhagen, have been taken out of peat in which

oaks abound. The age of iron corresponded more nearly with that of the beech tree.

M. Morlot, to whom we are indebted for a masterly sketch of the recent progress of this new line of research, followed up with so much success in Scandinavia and Switzerland, observes that the introduction of the first tools made of bronze among a people previously ignorant of the use of metals, implies a great advance in the arts, for bronze is an alloy of about nine parts of copper and one of tin; and although the former metal, copper, is by no means rare, and is occasionally found pure, or in a native state, tin is not only scarce, but never occurs native. To detect the existence of this metal in its ore, then to disengage it from the matrix, and finally, after blending it in due proportion with copper, to cast the fused mixture in a mould, allowing time for it to acquire hardness by slow cooling, all this bespeaks no small sagacity and skilful manipulation. Accordingly, the pottery found associated with weapons of bronze is of a more ornamental and tasteful style than any which belongs to the age of stone. Some of the moulds in which the bronze instruments were cast, and 'tags,' as they are called, of bronze, which are formed in the hole through which the fused metal was poured, have been found. The number and variety of objects belonging to the age of bronze indicates its long duration, as does the progress in the arts implied by the rudeness of the earlier tools, often mere repetitions of those of the stone age, as contrasted with the more skilfully-worked weapons of a later stage of the same period.

It has been suggested that an age of copper must always have intervened between that of stone and bronze; but if so, the interval seems to have been short in Europe, owing apparently to the territory occupied by the aboriginal inhabitants having been invaded and conquered by a people coming from the East, to whom the use of swords, spears, and other weapons of bronze, was familiar. Hatchets, however, of copper have been found in the Danish peat.

The next stage of improvement, or that manifested by the substitution of iron for bronze, indicates another stride in the progress of the arts. Iron never presents itself, except in meteorites, in a native state, so that to recognise its ores, and

then to separate the metal from its matrix, demands no small exercise of the powers of observation and invention. To fuse the ore requires an intense heat, not to be obtained without artificial appliances, such as pipes inflated by the human breath, or bellows, or some other suitable machinery.

After reading this extract I could hardly help asking the question, Is it possible to explain the change of meaning in one word which meant fir and came to mean oak, and in another word which meant oak and came to mean beech, by the change of vegetation which actually took place in those early ages? Can we suppose that members of the Aryan family had settled in parts of Europe, that dialects of their common language were spoken in the south and in the north of this western peninsula of the primeval Asiatic Continent, at a time which Mr. Steenstrup estimates as at least 4,000 years ago? Sir Charles Lyell does not commit himself to such definite chronological calculations.

What may be the antiquity (he writes) of the earliest human remains preserved in the Danish peat, cannot be estimated in centuries with any approach to accuracy. In the first place, in going back to the bronze age, we already find ourselves beyond the reach of history or even of tradition. In the time of the Romans, the Danish isles were covered, as now, with magnificent beech forests. Nowhere in the world does this tree flourish more luxuriantly than in Denmark, and eighteen centuries seem to have done little or nothing towards modifying the character of the forest vegetation. Yet in the antecedent bronze period there were no beech trees, or, at most, but a few stragglers, the country being covered with oak. In the age of stone, again, the Scotch fir prevailed, and already there were human inhabitants in those old pine forests. How many generations of each species of tree flourished in succession before the pine was supplanted by the oak, and the oak

by the beech, can be but vaguely conjectured, but the minimum of time required for the formation of so much peat must, according to the estimate of Steenstrup and other good authorities, have amounted to at least 4,000 years; and there is nothing in the observed rate of the growth of peat opposed to the conclusion that the number of centuries may not have been four times as great, even though the signs of man's existence have not yet been traced down to the lowest or amorphous stratum. As to the 'shell-mounds,' they correspond in date to the older portion of the peaty record, or to the earliest part of the age of stone as known in Denmark.

To suppose the presence in Europe of people speaking Aryan languages at so early a period in the history of the world, is opposed to the ordinarily received notions as to the advent of the Aryan race on the soil of Europe. Yet if we ask ourselves, we shall have to confess that these notions themselves rest on no genuine evidence, nor is there for these early periods any available measure of time, except what may be read in the geological annals of the post-tertiary period. The presence of human life during the fir period or the stone age seems to be proved. The question, whether the races then living were Aryan or Turanian can be settled by language only. Skulls may help to determine the physical character, but they can in no way clear up our doubts as to the language of the earliest inhabitants of Europe. Now, if we find in the dialects of Aryan speech spoken in Europe, if we find in Greek, Latin, and German, changes of meaning running parallel with the changes of vegetation just described, may we not admit, though as an hypothesis, and as an hypothesis only, that such changes of meaning were as the shadows cast on language by passing events.

Let us look for analogies. A word like the German *Buch*, a book, being closely connected[1] with *Buche*, beech, is sufficient evidence to prove that German was spoken before parchment and paper superseded wooden tablets. If we knew the time when tablets made of beech wood ceased to be employed as a common writing material, that date would be a *minimum* date for the existence of that language in which a book is called book, and not either *volumen*, or *liber*, or *biblos*.

Old words, we know, are constantly transferred to new things. *Papirus* took the meaning of paper, *noon* (*nona hora*) became the name for midday, *θάπτω*, to burn, was used in the sense of burying. People speak of an *engine-driver*, because they had before spoken of the driver of horses. They speak of a *steel pen* and a *pen-holder*, because they had before spoken of a *pen*, *penna*. When hawks were supplanted by fire-arms, the names of the birds of prey, formerly used in hawking, were transferred to the new weapons. The Italian *mosquetto*, the name of a sparrow-hawk, so called on account of its smallness, i. e. the little *musca*, or fly, became the name of the French *mousquet*, a musket. *Faucon*, hawk, was the name given to a heavier sort of artillery. *Sacre* in

[1] There are, no doubt, phonetic difficulties in connecting *beech* with *book*. But we have in A. S. *bōc* in *bōc-trēow*, beech-tree, and *bōc*, fem. (plur. *bēc*) book. The A. S. *bóc-stæf* is clearly the Germ. *Buch-stabe*. In Gothic *bóka* in the singular is a letter, while the plural *bókôs* is a book. That the Germans wrote on wood is shown by Venantius Fortunatus, *Carm.* vii. 18, 19, 'barbara fraxineis pingetur runa tabellis.' The editors of the Oxford English Dictionary point out the difficulties, but suggest no other derivation. Kluge, Skeat, and others retain the old etymology. See, however, Paul, *Grundriss*, i. p. 241.

French and *saker* in English mean both hawk and gun; and the Italian *terzeruolo*, a small pistol, is closely connected with *terzuolo*, a hawk. The English expression, 'to let fly at a thing,' suggests a similar explanation. In all these cases, if we knew the date when hawking went out and fire-arms came in, we should be able to measure by that date the antiquity of the language in which fire-arms were called by names originally the names of hawks.

The Mexicans called their own copper or bronze *tepuztli*, which is said to have meant originally *hatchet*.[1] The same word is now used for iron, with which the Mexicans first became acquainted through their intercourse with the Spaniards. *Tepuztli* then became a general name for metal, and when copper had to be distinguished from iron, the former was called red, the latter black *tepuztli*.[2] The conclusion which we may draw from this, viz. that Mexican was spoken before the introduction of iron into Mexico, is one of no great value, because we know it from other sources.

But let us apply the same line of reasoning to Greek. Here, too, *chalkós*, which at first meant copper,[3] came afterwards to mean metal in general, and *chalkeús*, originally a coppersmith, occurs in the Odyssey (ix. 391) in the sense of blacksmith, or a worker of iron (*sidēreús*). What does this prove? It proves that Greek was spoken before the discovery

[1] In Sanskrit, too, one name of iron, pârasava, was derived from parasu, hatchet.

[2] *Anahuac; or, Mexico and the Mexicans*, by E. B. Tylor. 1861, p. 140.

[3] Gladstone, *Homer and the Homeric Age*, iii. p. 499.

of iron, and it shows that if we knew the exact date of that discovery, which certainly took place before the Homeric poems were finished, we should have in it a *minimum* date for the antiquity of the Greek language. Though the use of iron was known before the composition of the Homeric poems, it certainly was not known, as we shall see presently, previously to the breaking up of the Aryan family. Even in Greek poetry there is a distinct recollection of an age in which copper was the only metal used for weapons, armour, and tools. Hesiod [1] speaks of the third generation of men, 'who had arms of copper, houses of copper, who ploughed with copper, and the black iron did not exist.' In the Homeric poems, knives, spear-points, and armour were still made of copper, and we can hardly doubt that the ancients knew a process of hardening that pliant metal.[2] The discovery of iron marks a period in the history of the world. Iron is not, like gold, silver, and copper, found in a pure state: the iron ore has to be searched for, and the process of extracting from it the pure metal is by no means easy.[3] In New

[1] *Op. et D.* 150:

Τοῖς δ' ἦν χάλκεα μὲν τεύχεα, χάλκεοι δέ τε οἶκοι,
Χαλκῷ δ' εἰργάζοντο· μέλας δ' οὐκ ἔσκε σίδηρος.

Cf. Lucretius, 5, 1286.

[2] See J. P. Rossignol, membre de l'Institut, *Les Métaux dans l'Antiquité:* Paris, 1863, pp. 215, 237. Proclus says, with regard to the passage in Hesiod, καὶ τῷ χαλκῷ πρὸς τοῦτο ἐχρῶντο, ὡς τῷ σιδήρῳ πρὸς γεωργίαν, διά τινος βαφῆς τὸν χαλκὸν στερρὸποιοῦντες. In Strabo, xiii. p. 610, the process of making the alloy of copper and ψευδάργυρος is described, and if ψευδάργυρος is zinc, the result of its mixture with copper can only be brass. See Curtius, *Grundzüge der Griechischen Etymologie*, p. 231, and St. John Vincent Day, *Early Use of Iron*, p. 6.

[3] Rossignol, *l. c.* p. 216. Buffon, *Histoire naturelle*, article *du Fer*, and article *du Cuivre*. Homer calls iron πολύκμητος σίδηρος.

Zealand, where there is good iron ore, there was no knowledge of the working of iron ore previously to the arrival of Europeans.[1]

What makes it likely that iron was not known previous to the separation of the Aryan nations is the fact that its names vary in every one of their languages. It is true that *chalkós*, too, in the sense of copper, occurs in Greek only, for it cannot be compared phonetically with Sanskrit hrîku, which is said to mean tin. But there is another name for copper, which is shared in common by Latin and the Teutonic languages, *æs*, *æris*, Gothic *aiz*,[2] Old High-German *êr*, and the adjective *êrîn*, Anglo-Saxon *ér*, English *ore*. Like *chalkós*, which originally meant copper, but came to mean metal in general, bronze or brass, the Latin *æs*, too, changed from the former to the latter meaning; and we can watch the same transition in the corresponding words of the Teutonic languages. *Æs*, in fact, like Gothic *aiz*, meant the one metal which, with the exception of gold and silver, was largely used of old for practical purposes. It meant copper whether in its pure state, or alloyed, as in later times, with tin (bronze) and zinc (brass).[3] But neither *æs* in Latin nor *aiz* in Gothic ever came to mean gold, silver, or iron. It is all the more curious, therefore, that the Sanskrit áyas, which is the same word as *æs* and *aiz*, should in Sanskrit have assumed the almost exclusive meaning of iron. I suspect, however, that in Sanskrit, too, áyas

[1] Tylor, *Early History of Mankind*, p. 167.
[2] See Verner, in Kuhn's *Zeitschrift*, xxiii. p. 126.
[3] Cf. Niebuhr, *Römische Geschichte*, p. 259.

meant originally the metal, i. e. copper, and that as iron took the place of copper, the meaning of áyas was changed and specialised. In passages of the Atharva Veda (ix. 3, 1, 7), and the Vâgasaneyi-sanhitâ (xviii. 13), a distinction is made between syâmam ayas, dark-brown metal, and loham or lohitam ayas, bright metal, the former meaning copper, the latter iron.[1] Flesh is likened to dark metal (syâmam ayas), blood to red metal (lohitam ayas). This shows that the exclusive meaning of ayas as iron was of later growth, and renders it more than probable that the Hindus, like the Romans and Germans, attached originally to áyas (*æs* and *aiz*), the meaning of the metal *par excellence*, i. e. copper. In Greek, áyas would have dwindled to *ēs*, and was replaced by *chalkós*; while to distinguish the new from the old metals, iron was called by Homer *sídēros*. In Latin, different kinds of *æs* were distinguished by adjectives, the best known being the *æs Cyprium*, brought from *Cyprus*,[2] while iron received the name of *ferrum*. In Gothic, *aiz* stands for Greek *chalkós*, but in Old High-German *chuphar* appears as a more special name, and *êr* assumes the meaning of bronze. This *êr* is lost in Modern Ger-

[1] Lohitâyas is given in Wilson's *Dictionary* as meaning copper. If this were right, syâmam ayas would be iron. The commentator to the Vâgasaneyi-sanhitâ is vague, but he gives copper as the first explanation of syâmam, iron as the first explanation of loham.

[2] Cyprus was taken possession of by the Romans in 57 B. C. *Herod* was entrusted by Augustus with the direction of the Cyprian copper-mines, and received one-half of the profits. Pliny used *æs Cyprium* and *Cyprium* by itself, for copper. The popular form, *cuprum*, copper, was first used by Spartianus in the third century, and became more frequent in the fourth. Rossignol, *l. c.* pp. 268–9.

man,[1] except in the adjective *ehern*, and a new word has been formed for metal in general, the Old High-German *ar-uzi*,[2] the modern German *Erz*. As ayas in Sanskrit assumed the special meaning of iron, we find that in German, too, the name for iron was derived from the older name of copper. The Gothic *eisarn*, iron, is considered by Grimm as a derivative form of *aiz*, and the same scholar concludes from this that 'in Germany bronze must have been in use before iron.'[3] *Eisarn* is changed in Old High-German to *îsarn*, later to *îsan*, the Modern German *eisen*; while the Anglo-Saxon *îsern* leads to *îren* and *iron*.

It may safely be concluded, I believe, that before the Aryan separation, gold, silver, and a third metal, i. e. copper, in a more or less pure state, were known. Sanskrit, Greek, the Teutonic and Slavonic languages agree in their names for gold;[4] Sanskrit, Greek, and Latin in their names for silver;[5] Sanskrit, Latin, and German in their names for the third metal. The names for iron, on the contrary, are different in each

[1] It occurs as late as the fifteenth century. See Grimm, *Deutsches Wörterbuch*, s. v. *erin*, and s. v. *Erz*, 4, *sub fine*.

[2] Grimm throws out a hint that *ruzi* in *aruzi* might be the Latin *rudus*, or *raudus*, *rauderis*, brass, but he qualifies the idea himself as bold.

[3] See Grimm, *Geschichte der Deutschen Sprache*, where the first chapter is devoted to the consideration of the names of metals. The same subject has been treated by M. A. Pictet, in his *Origines Indo-Européennes*, vol. i. p. 149 *seq*. The learned author arrives at results very different from those stated above; but the evidence on which he relies, and particularly the supposed coincidences between comparatively late or purely hypothetical compounds in Sanskrit, and words in Greek and Latin, would require much fuller proofs than he has given.

[4] Curtius, *Griechische Etymologie*, i. 172; ii. 314.

[5] Curtius, *l. c.* i. 141.

of the principal branches of the Aryan family, the coincidences between the Celtic and Teutonic names being of a doubtful character. If, then, we consider that the Sanskrit ayas, which meant, originally, the same as Latin *æs* and Gothic *aiz*, came to mean iron; that the German word for iron is derived from Gothic *aiz*, and that Greek *chalkós*, after meaning copper, was used as a general name for metal, and conveyed occasionally the meaning of iron, we may conclude, I believe, that Sanskrit, Greek, Latin, and German were spoken before the discovery of iron, that each nation became acquainted with that most useful of all metals after the Aryan family was broken up, and that each of the Aryan languages coined its name for iron from its own resources, and marked it by its own national stamp, while it brought the names for gold, silver, and copper from the common treasury of their ancestral home.

Let us now apply the same line of reasoning to the names of fir, oak, and beech, and their varying significations. The Aryan tribes, all speaking dialects of one and the same language, who came to settle in Europe during the fir period, or the stone age, would naturally have known the fir-tree only. They called it by the same name which still exists in English as *fir*, in German as *föhre*. How was it, then, that the same word, as used in the Lombard dialect, means oak, and that a second dialectic form exists in modern German, meaning oak, and not fir? We can well imagine that the name of the fir-tree should, during the fir period, have become the appellative for tree in general, just as *chalkós*, copper, became the appella-

tive for metal in general. But how could that name have been again individualised and attached to oak, unless the dialect to which it belonged had been living at a time when the fir vegetation was gradually replaced by an oak vegetation? Although there is as little evidence of the Latin *quercus* having ever meant fir and not oak, as there is of the Gothic *aiz* having ever meant copper and not bronze, yet, if *quercus* is the same word as *fir*, I do not hesitate to postulate for it the pre-historic meaning of fir. That in some dialects the old name of fir should have retained its meaning, while in others it assumed that of oak, is in perfect harmony with what we observed before, viz. that *æs* retained its meaning in Latin, while ayas in Sanskrit assumed the sense of iron.

The fact that *phēgós* in Greek means oak,[1] and oak only, while *fagus* in Latin, *bôk* in Anglo-Saxon, mean beech, requires surely an explanation; and, until a better one can be given, I venture to suggest that Teutonic and Italic Aryans witnessed the transition of the oak period into the beech period, of the bronze age into the iron age, and that while the Greeks retained *phēgós* in its original sense, the Teutonic and Italian colonists transferred the name, as an appellative, to the new forests that were springing up in their wild homes.

I am fully aware that many objections may be

[1] In Persian, too, *bâk* is said to mean oak. No authority, however, has ever been given for that meaning, and it is left out in the last edition of Johnson's *Dictionary* and in Vullers' *Lexicon Persico-Latinum*. Though the Persian *bâk*, in the sense of oak, would considerably strengthen our argument, it is necessary to wait until the word has been properly authenticated.

urged against such an hypothesis. Migration from a fir-country into an oak-country, and from an oak-country into a beech-country, might be supposed to have caused these changes of meaning in the ancient Aryan words for fir and oak. I must leave it to the geologist and botanist to determine whether this is a more plausible explanation, and whether the changes of vegetation, as described above, took place in the same rotation over the whole of Europe, or in the North only. Again, the skulls found in the peat deposits are of the lowest type, and have been confidently ascribed to races of non-Aryan descent. In answer to this, I can only repeat my old protest,[1] that the Science of Language has nothing to do with skulls.[2] Lastly, the date thus assigned to the Aryan arrival in Europe will seem too far remote, particularly if it be considered that long before the first waves of the Aryan emigrants touched the shores of Europe, Turanian tribes, Fins, Laps, and Basks, must have roved through the forests of our continent. My answer is, that I feel the same difficulty myself, but

[1] See M. M.'s *Lectures on the Turanian Languages*, p. 89: 'Ethnology *v.* Phonology.'

[2] The same opinion has lately found a powerful supporter in Professor Huxley. I refer particularly to his paper 'On the Methods and Results of Ethnology,' published in the *Fortnightly Review*, No. 3, June 15, 1865; and his lecture on the 'Forefathers of the English People,' published in *Nature*, March 17, 1870.

'If we confine our attention,' he says, 'to the British Islands, we have absolutely no means of ascribing any special physical characters to the Celtic-speaking people. A British or Irish "Celt" might be tall or short, dark or fair, round-headed or long-headed; and the remark of Professor Max Müller, that it is as rational to speak of a dolichocephalic language as of a Celtic skull, is, for the Celts of Britain, perfectly justified.'

that I have always considered a full statement of a difficulty a necessary step towards its solution. I shall be as much pleased to see my hypothesis refuted as to see it confirmed. All that I request for it is an impartial examination.[1]

[1] Some notes on the causes of the change of the vegetation in ancient Denmark, in G. P. Marsh, *Man and Nature*, p. 3, *seq.*

CHAPTER VI.

ON THE PRINCIPLES OF ETYMOLOGY.

Guessing Etymology.

VOLTAIRE, as is well known, defined etymology as a science in which vowels signify nothing at all, and consonants very little. '*L'étymologie*,' he said, '*est une science où les voyelles ne font rien, et les consonnes fort peu de chose*.' Nor was this sarcasm quite undeserved by those who wrote on etymology in Voltaire's time, and we need not wonder that a man so reluctant to believe in any miracles, should have declined to believe in the miracles of etymology. Of course, not even Voltaire was so great a sceptic as to maintain that the words of our modern languages had no etymology, i. e. no origin, at all. Words do not spring into life by an act of spontaneous generation, and the words of modern languages in particular are in many cases so much like the words of ancient languages that no doubt is possible as to their real origin and derivation. Wherever there was a certain similarity in sound and meaning between French words and words belonging to Latin, German, Hebrew, or any other tongue, even Voltaire would have acquiesced. No one, for instance, could ever have doubted that the French word for God, *Dieu*, was the same as the Latin *Deus*; that the French

homme and *on* came from Latin *hominem* and *homo*; the French *femme* from the Latin *femina*. In these instances there had been no change of meaning, and the change of form, though the process by which it took place remained unexplained, was not such as to startle even the sensitive conscience of Voltaire. There was indeed one department of etymology which had been cultivated with great success in Voltaire's time, and even long before him, namely, the history of the Neo-Latin or Romanic dialects. We find in the dictionary of *Du Cange* a most valuable collection of extracts from mediæval Latin writers, which enables us to trace, step by step, the gradual changes of form and meaning from ancient to modern Latin; and we have in the much ridiculed dictionary of *Menage* many an ingenious contribution towards tracing those mediæval Latin words in the earliest documents of French literature, from the times of the Crusades to the Siècle of Louis XIV. Thus a mere reference to Montaigne, who wrote in the sixteenth century, is sufficient to prove that the modern French *gêner* was originally *gehenner*. Montaigne writes: '*Je me suis contraint et gehenné*,' meaning, 'I have forced and tortured myself.' This verb *gehenner* is easily traced back to the Latin *gehenna*,[1] used in the Greek of the New Testament and in the ecclesiastical writings of the middle ages not only in the sense of hell, but in the more general sense of suffering and pain. It is well known that Gehenna was originally the name of the valley of Hinnom, near Jerusalem (גֵּיהִנֹּם), the Tophet, where the Jews burnt their sons

[1] Molière says, 'Je sens de son courroux des gênes trop cruelles.'

and their daughters in the fire, and of which Jeremiah prophesied that it should be called the valley of slaughter: for 'They shall bury in Tophet till there be no place.'[1] How few persons think now of the sacrifices offered to Moloch in the valley of Hinnom when they ask their friends to make themselves comfortable, and say, '*Ne vous gênez pas.*'

It was well known not only to Voltaire, but even to Henri Estienne,[2] who wrote in the sixteenth century, that it is in Latin we may expect to find the original form and meaning of most of the words which fill the dictionaries of the French, Italian,

[1] Jeremiah vii. 31, 32.

[2] Henri Estienne, *Traicte de la Conformité du Langage François avec le Grec*, 1566. What Estienne means by the *conformité* of French and Greek refers chiefly to syntactical peculiarities, common to both languages. 'En une epistre Latine que je mi l'an passé audevant de quelques miens dialogues Grecs, ce propos m'eschappa, Quia multo majorem Gallica lingua cum Græcâ habet affinitatem quam Latina; et quidam tantum (absit invidia dicto) ut Gallos eo ipso quod nati sint Galli, maximum ad linguæ Græcæ cognitionem *προτέρημα* seu *πλεονέκτημα* afferre putem.' Estienne's etymologies are mostly sensible and sober; those which are of a more doubtful character are marked as such by himself. It is not right, therefore, as is so often done, to class so great a scholar as H. Estienne together with Perion, and to charge him with having ignored the Latin origin of French. (See August Fuchs, *Die Romanischen Sprachen*, 1849, p. 9.) What Estienne thought of Perion may be seen from the following extract (*Traicte de la Conformité*, p. 139): 'Il trouvera assez bō nombre de telles en un livre de nostre maistre Perion: je ne di pas seulemēt de phantastiques, mais de sottes et ineptes, et si lourdes et asnieres que n'estoyent les autres temoignages que ce poure moine nous a laissez de sa lourderie et asnerie, on pourroit penser son œuvre estre supposée.' Estienne is wrongly charged with having derived admiral, French *amiral*, from *ἀλμυρός*. He says it is Arabic, and so it is. It is the Arab *Emir*, prince, leader, possibly with the Arabic article. French *amiral*; Span. *almirante*; It. *almiraglio*, as if from *admirabilis*. Hammer's derivation from *amîr al bahr*, commander of the sea, is untenable.

and Spanish languages. But these early etymologists never knew of any test by which a true derivation might be distinguished from a false one, except similarity of sound and meaning; and how far this similarity might be extended may be seen in such works as Perion's *Dialogi de Linguæ Gallicæ Origine* (1557), or Guichard's *Harmonie Étymologique des Langues Hebraique, Chaldaique, Syriaque, Greque, Latine, Italienne, Espagnole, Allemande, Flamende, Angloise* (Paris, 1606). Perion derives *brebis*, sheep (the Italian *berbice*), from *próbaton*, not from the Latin *vervex*, like *berger* from *berbicarius*. *Envoyer* he derives from the Greek *pémpein*, not from the Latin *inviare*. *Heureux* he derives from the Greek *oŭrios*.

Now, if we take the last instance, it is impossible to deny that there is a certain similarity of form and meaning between the Greek and French; and as there can be no doubt that certain French words, such as *parler*, *prêtre*, *aumône*, were derived from Greek, it would have been very difficult to convince M. Perion that his derivation of *heureux* was not quite as good as any other. There is another etymology of the same word, according to which it is derived from the Latin *hora*. *Bonheur* is supposed to be *bona hora*; *malheur*, *mala hora*; and therefore *heureux* is referred to a supposed Latin form, *horosus*, in the sense of *fortunatus*. This etymology, however, is no better than that of Perion. It is a guess, and no more, and it falls to the ground as soon as any of the more rigid tests of etymological science are applied to it. In this instance the test is very simple. There is, first of all, the gender of *malheur* and *bonheur*,

masculine instead of feminine.[1] Secondly, we find that *malheur* was spelt in Old French *mal aür*, which is *malum augurium*. Thirdly, we find in Provençal *agur*, *augur*, and from it the Spanish *aguëro*, an omen. *Augurium* itself comes from *avis*, bird, and *gur*, telling, *gur* being connected with *garrire*, *garrulus*, and the Sanskrit gar or *gṛî*, to shout.

We may form an idea of what etymological tests were in former times when we read in Guichard's *Harmonie Étymologique*:'[2] 'With regard to the derivations of words by means of the addition, subtraction, transposition, and inversion of letters, it is certain that thir can and must be done, if we wish to find true etymologies. Nor is it difficult to believe this, if we consider that the Jews wrote from right to left, whereas the Greeks and the other nations, who derive their languages from Hebrew, write from left to right.' Hence, he argues, there can be no harm in inverting letters or changing them to any amount. As long as etymology was carried on on such principles, it could not claim the name of a science. It was an amusement in which people might display more or less of learning or ingenuity, but it was unworthy of its noble title, 'The Science of Truth.'

[1] 'Appui de ma vieillesse, et comble de mon heur,
Touche ces cheveux blancs à qui tu rends l'honneur.'
Cid.

[2] 'Quant à la dérivaison des mots par addition, substraction, transposition, et inversion des lettres, il est certain que cela se peut et doit ainsi faire, si on veut trouver les étymologies. Ce qui n'est point difficile à croire, si nous considérons que les Hébreux escrivent de la droite à la senestre, et les Grecs et autres de la senestre à la droite.'

Sound Etymology independent of Sound.

It is only in the present century that etymology has taken its rank as a science, and it is curious to observe that what Voltaire intended as a sarcasm has now become one of its acknowledged principles. Etymology is indeed a science in which identity, or even similarity, whether of sound or meaning, is of no importance whatever. Sound etymology has nothing to do with sound. We know words to be of the same origin which have not a single letter in common, and which differ in meaning as much as black and white. Mere guesses, however plausible, are completely discarded from the province of scientific etymology. What etymology professes to teach is no longer merely that one word is derived from another; but how to prove, step by step, that one word was regularly and necessarily changed into another. As in geometry it is of very little use to know that the squares of the two sides of a rectangular triangle are equal to the square of the hypotenuse, it is of little value in etymology to know, for instance, that the French *larme* is the same word as the English *tear*. Geometry professes to teach the process by which to prove that which seems at first sight so incredible; and etymology professes to do the same. A derivation, even though it be true, is of no real value if it cannot be proved—a case which happens not unfrequently, particularly with regard to ancient languages, where we must often rest satisfied with refuting fanciful etymologies, without being able to give anything better in their place. It requires, no

doubt, an effort before we can completely free ourselves from the idea that etymology must chiefly depend on similarity of sound and meaning; and in order to dispose of this prejudice effectually, it may be useful to examine this subject in full detail.

If we wish to establish our thesis that sound etymology has nothing to do with sound, we must prove four points:—

1. *That the same word takes different forms in different languages.*

2. *That the same word takes different forms in one and the same language.*

3. *That different words take the same form in different languages.*

4. *That different words take the same form in one and the same language.*

Usefulness of Modern Languages.

In order to establish these four points, we should at first confine our attention to the history of modern languages, or, as we should say more correctly, to the modern history of language. The importance of the modern languages for a true insight into the nature of language, and for a true appreciation of the principles which govern the growth of ancient languages, has never been sufficiently appreciated. Because a study of the ancient languages has always been confined to a small minority, and because it is generally supposed that it is easier to learn a modern than an ancient tongue, people have become accustomed to look upon the so-called classical languages—Sanskrit, Greek, and

Latin—as vehicles of thought more pure and perfect than the spoken or so-called vulgar dialects of Europe. We are not speaking at present of the literature of Greece or Rome or ancient India, as compared with the literature of England, France, Germany, and Italy. We speak only of language, of the roots and words, the declensions, conjugations, and constructions peculiar to each dialect; and with regard to these, it must be admitted that the modern stand on a perfect equality with the ancient languages. Can it be supposed that we, who are always advancing in art, in science, in philosophy, and religion, should have allowed language, the most powerful instrument of the mind, to fall from its pristine purity, to lose its vigour and nobility, and to become a mere jargon? Language, though it changes continually, does by no means continually decay; or at all events, what we are wont to call decay and corruption in the history of language is in truth nothing but the necessary condition of its life. Before the tribunal of the Science of Language, the difference between ancient and modern languages vanishes. As in botany aged trees are not placed in a different class from young trees, it would be against all the principles of scientific classification to distinguish between old and young languages. We must study the tree as a whole, from the time when the seed is placed in the soil to the time when it bears fruit; and we must study language in the same manner as a whole, tracing its life uninterruptedly from the simplest roots to the most complex derivatives. He who can see in modern languages nothing but corruption or anomaly, understands but little of

the true nature of language. If the ancient languages throw light on the origin of the modern dialects, many secrets in the nature of the dead languages can only be explained by the evidence of the living dialects. Apart from all other considerations, modern languages help us to establish, by evidence which cannot be questioned, the leading principles of the science of language. They are to the student of language what the tertiary, or even more recent, formations are to the geologist. The works of Diez, his 'Comparative Grammar of the Romanic Languages' and his 'Lexicon Comparativum Linguarum Romanarum' are as valuable in every respect as the labours of Bopp, Grimm, Zeuss, and Miklosich; nay, they seem to me to form the best introduction to the study of the more ancient periods of Aryan speech. Many points which, with regard to Sanskrit, Greek, and Latin, can only be proved by inductive reasoning, can here be settled by historical evidence.

In the modern Romanic dialects we have before our eyes a more complete and distinct picture or repetition of the origin and growth of language than anywhere else in the whole history of human speech. We can watch the Latin from the time of the first Scipionic inscription (283 B.C.) to the time when we meet with the first traces of Neo-Latin speech in Italy, Spain, and France. We can then follow for a thousand years the later history of modern Latin, in its six distinct dialects, all possessing a rich and well-authenticated literature. If certain forms of grammar are doubtful in French, they receive light from the collateral evidence which is to be found in

Italian or Spanish. If the origin of a word is obscure in Italian, we have only to look to French and Spanish, and we shall generally receive some useful hints to guide us in our researches. Where, except in these modern dialects, can we expect to find a perfectly certain standard by which to measure the possible changes which words may undergo both in form and meaning without losing their identity? We can here silence all objections by facts, and we can force conviction by tracing, step by step, every change of sound and sense from Latin to French; whereas when we have to deal with Greek and Latin and Sanskrit, we can only use the soft pressure of inductive reasoning.

Change of Form.

If we wish to prove that the Latin *coquo* is closely related to the Greek *pép-tō*, I cook, we have to establish the fact that the guttural (velar) and labial tenues, k and p, are interchangeable in Greek and Latin. No doubt there is sufficient evidence in the ancient languages to prove this. Few would deny the identity of *pente* and *quinque*, and if they did, a reference to the Oscan dialect of Italy, where *five* is not *quinque* but *pomtis*, would suffice to show that the two forms differed from each other by dialectic pronunciation only. Yet it strengthens the hands of the etymologist considerably if he can point to living languages and trace in these exactly the same phonetic influences. Thus the Gaelic dialect shows the guttural where the Welsh shows the labial tenuis. Five in Irish is *coic*, in Welsh *pimp*. Four in Irish

is *cethir*, in Welsh *petwar*. Again, in Roumanian, a Latin *qu* followed by *a* appears as *p*. Thus, *aqua* in Roumanian is *apà*; *equa épà*; *quatuor patru*. It is easier to prove that the French *même* is the Latin *semetipsissimus*, than to convince the incredulous that the Latin *sêd* is a reflective pronoun, and meant originally *by itself*.

Where, again, except in the modern languages, can we watch the secret growth of new forms, and thus learn to understand the resources for the formation of the grammatical articulation of language? Everything that is now merely formal in the grammatical system of French can easily be proved to have been originally substantial; and after we have once become fully impressed with this fact, we shall feel less reluctance in acknowledging the same principle with regard to the grammatical system of more ancient languages. If we have learnt how the French future *j'aimerai* is a compound tense, consisting of the infinitive and the auxiliary verb, *avoir*, to have, we shall be more ready to admit a similar explanation for the Latin future in *bo*, and the Greek future in *sō*. Modern dialects may be said to let out the secrets of language. They often surprise us by the wonderful simplicity of the means by which the whole structure of language is erected, and they frequently repeat in their new formations the exact process which had given rise to more ancient forms. There can be no doubt, for instance, about the Modern German *entzwei*. *Entzweireissen* does not mean only to tear into two parts, but it assumes the more general sense of to tear in pieces. In English,

too, a servant will say that a thing has come *a-two*, though he broke it into many pieces. *Entzwei*, in fact, answers exactly the same purpose as the Latin *dis* in *dissolvo*, *disturbo*, *distraho*. And what is the original meaning of this *dis*? Exactly the same as the German *entzwei*, the Low-German *twei*. In Low-German *mîne Schau sint twei* means my shoes are torn. The numeral *duo*, with the adverbial termination *is*, is liable to the following changes:—*Du-is* may become *dvis*, and *dvis dbis*. In *dbis* either the d or the b must be dropt, thus leaving either *dis* or *bis*. *Bis* in Latin is used in the sense of twice, *dis* in the sense of *a-two*. The same process leads from *duellum*, Zweikampf, duel, to *dvellum*, *dbellum*, and *bellum*, and from Greek *dyis* to *dFis* and *dís* (twice).

Change of Meaning.

And what applies to the form, applies to the meaning of words. What should we say if we were told that a word which means good in Sanskrit meant bad in Greek? Yet we have only to trace the Modern German *schlecht* back through a few centuries before we find that the same word which now means *bad* was then used in the sense of *good*,[1] and we are enabled to perceive, by a reference to intermediate writers, that this transition was by no means so violent as it seems to be. *Schlecht* meant *right* and *straight*, but it also meant *simple*; *simple* came to mean *foolish*; *foolish*, *useless*; *useless*, *bad*. *Ekelhaft*

[1] 'Er (Got) enwil niht tuon wan slehtes:' 'God will do nothing but what is good.' Fridank's *Bescheidenheit*, in M. M.'s *German Classics*, p. 121.

is used by Leibniz in the sense of fastidious, delicate;[1] it now means only what causes disgust. *Ingenium*, which meant an inborn faculty, is degraded into the Italian *ingannare*, which means to cheat. *Raisonniren* meant originally to reason; but its ordinary acceptation in German now is to grumble, to talk at random. *Sælig* or *gesælig*, which in Anglo-Saxon meant blessed, beatus, appears in English as *silly*, and the same ill-natured change may be observed in the Greek *euéthēs*, guileless, mild, silly, and in the German *albern*, stupid, the Old High-German *alawâr*, verissimus, *alawâri*, benignus. The German adverb *schon*, already, was originally the same word as *schön*, beautiful; *fast*, almost, was *fest*, firm; *zwar*, though, was *ze wâre*, in truth.

Thus, a word which originally meant life or time in Sanskrit, has given rise to a number of words expressing eternity, the very opposite of life and time. *Ever* and *never* in English are derived from the same source from which we have *age*. *Age* is of course the French *âge*. This *âge* was in Old French *edage*, changed into *eage* and *âge*. *Edage*, again, represents a Latin form, *ætaticum*, which was had recourse to after the original *ætas* had dwindled away into a mere vowel, the Old French *aé*. Now the Latin *ætas* is a contraction of *ævitas*, as *æternus* is a contraction of *æviternus* (cf. sempiternus). *Ævum*, again, corresponds by its radical, though not by its derivative elements, to Greek *aiFón* and the Gothic *aiw-s*, time and eternity. In Sanskrit we meet with â y - u s, a neuter, which, if literally trans-

[1] Not mentioned in Grimm's *Dictionary*.

lated into Greek, would give us a Greek form *aîos*, and an adjective, *aiés*, neut. *aié*. Now, although *aîos* did not survive in the actual language of Greece, its derivatives exist, the adverbs *aiés* and *aieí*. This *aieí* is a regular dative (or rather locative) of *aiés*, which would form *aiesi*, *aiei*, like *génesi* and *génei*. In Gothic, we have from *aiws*, time, the adverbs *aiw*, ever, the Modern German *je*; and *ni aiw*, never, the Modern German *nie*.

We find in this class of words the best confirmation of a remark made by Locke and by others before him, that all words expressive of immaterial ideas are derived from words expressive of material subjects, by which, as he adds, 'we may give some kind of guess what kind of notions they were, and whence derived, which filled their minds who were the first beginners of language.' We can, however, go a step beyond Locke, and substitute roots for words. Thus, if the ancient framers of our language possessed a root PLAK, for platting, or VABH, for weaving, they might derive from them not only the name of the spider, but likewise of the poet who weaves words and thoughts together. Thus we have from VABH in Sanskrit ûrṇa-vâbhi, spider, lit. wool-weaver. In Greek we have *ὕφος*, web, but also *ὕμ-νος* (for *ὑφ-νος*), poem, while Greek expressions such as *δόλους καὶ μῆτιν*, *μύθους καὶ μήδεα*, *οἰκοδομήματα*, *ὄλβον*, and *κηρὸν ὑφαίνειν*, show how many branches may spring in later times from one common stem. The root VABH, however, like VAP, before they came to mean more exclusively to weave, meant to throw, and also to sow. In an intransitive sense even our modern verb

to *wabble*, has been traced back by Professor Pott to this root, though according to Mr. Wedgwood it is, of course, a clear case of onomatopœia.

History of Words.

There is a peculiar charm in watching the various changes of form and meaning in words passing down from the Ganges or the Tiber into the great ocean of modern speech. In the eighth century B.C. the Latin dialect was confined to a small territory. It was but one dialect out of many that were spoken all over Italy. But it grew—it became the language of Rome and of the Romans, it absorbed all the other dialects of Italy, the Umbrian, the Oscan, the Etruscan, the Celtic, and became by conquest the language of Central Italy, of Southern and Northern Italy. From thence it spread to Gaul, to Spain, to Germany, to Dacia on the Danube. It became the language of law and government in the civilised portions of Northern Africa and Asia, and it was carried through the heralds of Christianity to the most distant parts of the globe. It supplanted in its victorious progress the ancient vernaculars of Gaul, Spain, and Portugal, and it struck deep roots in parts of Switzerland and Walachia. When it came in contact with the more vigorous idioms of the Teutonic tribes, though it could not supplant or annihilate them, it left on their surface a thick layer of foreign words, and it thus supplied the greater portion in the dictionary of nearly all the civilised nations of the world. Words which were first used by Italian shepherds are now used by the statesmen of England, the poets of

France, the philosophers of Germany; and the faint echo of their pastoral conversation may be heard in the senate of Washington, in the cathedral of Calcutta, and in the colonies of Australia.

I shall trace the career of a few of those early Roman words, in order to show how words may change, and how they adapt themselves to the changing wants of each generation. I begin with the word *Palace.* A palace now is the abode of a royal family. But if we look at the history of the name we are soon carried back to the shepherds of the Seven Hills. There, on the Tiber, one of the Seven Hills was called the *Collis Palatinus,* and the hill was called Palatinus, from *Pales,* a pastoral deity, whose festival was celebrated every year on the 21st of April as the birthday of Rome. It was to commemorate the day on which Romulus, the wolf-child, was supposed to have drawn the first furrow on the foot of that hill, and thus to have laid the foundation of the most ancient part of Rome, the *Roma Quadrata.* On this hill, the Collis Palatinus, stood in later times the houses of Cicero and of his neighbour and enemy Catiline. Augustus built his mansion on the same hill, and his example was followed by Tiberius and Nero. Under Nero, all private houses had to be pulled down on the Collis Palatinus, in order to make room for the emperor's residence, the *Domus Aurea,* as it was called, the Golden House. This house of Nero's was henceforth called the *Palatium,* and it became the type of all the palaces of the kings and emperors of Europe.

The Latin *palatium* has had another very strange offspring—the French *le palais,* in the sense of palate.

Before the establishment of phonetic rules to regulate the possible changes of letters in various languages, no one would have doubted that *le palais*, the palate, was the Latin *palatum*. However, *palatum* could never have become *palais*, but only *palé*. How *palatium* was used instead is difficult to explain. It was a word of frequent use, and with it was associated the idea of vault (*palais vouti*). Now *vault* was a very appropriate name for the palate. In Italian the palate is called *il cielo della bocca*; in Greek *ouranós*, *ouranískos*, in Sanskrit mûrdhan. Ennius, again, speaks of the vault of heaven as *palatum cæli*. There was evidently a similarity of conception between palate and vault, and vault and palace; and hence *palatium* was evidently in vulgar Latin used by mistake for *palatum*, and thus carried on into French.[1]

Another modern word, the English *court*, the French *cour*, the Italian *corte*, carries us back to the same locality and to the same distant past. It was on the hills of Latium that *cohors* or *cors* was first used in the sense of a *hurdle*, an *enclosure*, a *cattle-yard*.[2] The *cohortes*, or divisions of the Roman army, were called by the same name; so many soldiers constituting a pen or a court. It is generally supposed that *cors* is restricted in Latin to the sense of cattle-yard, and that *cohors* is always used in a military sense. This is not so. Ovid (*Fasti*, iv. 704) used *cohors* in the sense of cattle-yard:

Abstulerat multas illa cohortis aves;

[1] See Diez, *Lexicon Comp.* s. v.

[2] *Town*, too, is originally a hedge, the German *Zaun*. In Scotland *town* still means a farmhouse, a hamlet.

and on inscriptions *cors* has been found in the sense of *cohors*. The difference between the two words was a difference of pronunciation merely. As *nihil* and *nil*, *mihi* and *mi*, *nehemo* and *nemo*, *prehendo* and *prendo*, so *cohors*, in the language of Italian peasants, glided into *cors*.

This *cors*, *cortis*, from meaning a pen, a cattle-yard, became in mediæval Latin *curtis*, and was used, like the German *Hof*, of the farms and castles built by Roman settlers in the provinces of the empire. These farms became the centres of villages and towns, and in the modern names of *Vraucourt*, *Graincourt*, *Liencourt*, *Magnicourt*, *Aubignicourt*, the older names of *Vari curtis*, *Grani curtis*, *Leonii curtis*, *Manii curtis*, *Albini curtis*, have been discovered.[1]

Lastly, from meaning a fortified place, *curtis* rose to the dignity of a royal residence, and became synonymous with palace. The two names having started from the same place, met again at the end of their long career.

Now, if we were told that a word which in Sanskrit means *cow-pen* had assumed in Greek the meaning of *palace*, and had given rise to derivatives such as *courteous* (civil, refined), *courtesy* (a graceful inclination of the body, expressive of respect), *to court* (to pay attentions, or to propose marriage), many people would be incredulous. It is therefore of the greatest use to see with our own eyes how, in modern languages, words are worn down, in order to feel less

[1] Mannier, *Études sur les Noms des Villes*: Paris, 1861, p. xxvi. Houzé, *Étude sur la Signification des Noms de Lieux en France*: Paris, 1864.

sceptical as to a similar process of attrition in the history of the more ancient languages of the world.

While names such as *palace* and *court*, and many others, point back to an early pastoral state of society, and could have arisen only among shepherds and husbandmen, there are other words which we still use, and which originally could have arisen only in a seafaring community. Thus *government*, or *to govern*, is derived from the Latin *gubernare*. This *gubernare* is a foreign word in Latin; that is to say, it was borrowed by the Romans from the Greeks, who at a very early time had sailed westward, discovered Italy, and founded colonies there, just as in later times the nations of Europe sailed further west, discovered America, and planted new colonies there. The Greek word which in Italy was changed into *gubernare* was *kubernân*, and it meant originally to handle the rudder, or to steer. It was then transferred to the person or persons entrusted with the direction of public affairs, and at last came to mean to rule.

Titles.

Minister meant, etymologically, a small man; and it was used in opposition to *magister*, a big man. *Minister* is connected with *minus*, less; *magister* with *magis*, more. Hence *minister*, a servant, a servant of the Crown, a minister. From *minister* came the Latin *ministerium*, service; in French contracted into *métier*, a profession. A *minstrel* was originally a professional artist, and more particularly a singer or poet. Even in the *Mystery Plays*, the theatrical representations of portions of the Old or New Testa-

ment story, such as still continue to be performed at Ammergau in Bavaria, *mystery* is a corruption of *ministerium*; it meant a religious ministry or service, and had nothing to do with mystery. It ought to be spelt with an *i*, therefore, and not with a *y*.

There is a background to almost every word which we are using; only it is darkened by age, and requires to be lighted up. Thus *lord*, which in modern English has become synonymous with *nobleman*, is in Anglo-Saxon *hlâf-ord*, which was supposed by some to mean *ord*, the origin, of *hlâf*, loaf; while others, more correctly, look upon it as a corruption of *hlâf-weard*, the warder of bread.[1] It corresponds to the German *Brot-herr*, and meant originally employer, master, lord. Lappenberg was, I believe, the first to point out in his *History of England* that *Earl* (A.S. *eorl*), the Danish *Jarl*, might be a contraction of *ald-or*, a senior or elder, by the side of *ieldra*, older. The phonetic changes are not quite regular, yet they receive some support from analogy. Thus *rl* is clearly a representative of *ll*, in *Erle*, alnus, for *Eller* (O.H.G. *elira* and *erila*); and *ll* represents an original *ld* in *Eller-mutter* for *Elder-mutter*, or in A.S. *ellern* from *eldyr*, elder-tree. In Welsh also *ellir* stands

[1] See Grimm, *Deutsches Wörterbuch*, s. v. 'Brotherr,' and 'Brötling,' servant. Grimm, in his *Rechtsalterthümer*, p. 230, note, says: 'Lord, lady, are in A.S. *hlaford*, *hläfdie*, *hläfdige*. If we derive them from *hlâf* (loaf), they should be written with *â* and *ä*; but I do not consider this derivation certain. We ought to consider the Old Norse *lafavardr* (not *hleifvardr*, *leifvardr*). Vilk. cap. 86, p. 159; Biörn derives *lâvardr* from *lav*, collegium. The West Gothic Law, rettl. 13, has *lavard* for master as opposed to servant.'

for *eldir*. Still, it does not follow that phonetic changes real in one language are possible in another, and we must wait for further confirmation.[1]

In Latin, *elder* would be *senior*, and this (in the form of *seniorem*) became changed into *seigneur*, *sieur*, while *senior* dwindled down to *sir*.[2] *Duke* meant originally a leader; *count*, the Latin *comes*, a companion; *baron*, the mediæval Latin *baro*, meant man; and *knight*, the German *Knecht*, was a servant. Each of these words has risen in rank, but they have kept the same distance from each other.

As families rose into clans, clans into tribes, tribes into confederacies, confederacies into nations, the elders of each family naturally formed themselves into a *senate*, *senatus* meaning a collection of elders. The elders were also called the grey-headed, or the *Greys*, the πέλιοι among the Macedonians.[3] It is possible, though no more, that *gravio*, the German *Graf*, may be a somewhat irregular representative

[1] See Grimm, *Deutsche Grammatik*, ii. p. 141. '*Ealdor* or *aldor*, in Anglo-Saxon, denotes princely dignity, without any definition of function whatever. In Béowulf it is used as a synonym for *cyning*, *þeoden*, and other words applied to royal personages. Like many other titles of rank in the various Teutonic tongues, it is derived from an adjective implying age, though practically this idea does not by any means survive in it, any more than it does in the word *senior*, the origin of the feudal term *Seigneur*. The Roman *senatus*, the Greek γερουσία, the ecclesiastical πρεσβύτεροι, are all examples of a like usage.' —Kemble, *Saxons*, ii. p. 128. That the etymological meaning, however, was never quite forgotten, we see from such passages as Bede, ii. 13 *seq.*, where 'natu majores ac regis conciliarii' is translated by *ealdormen* and *þäs cyningas þeahteras*.

[2] *Sere* and *siri* occur as early as 1127. See Trinchera, *Syllab. Memb. Græc.* p. 134: σέρε ἀλεξάνδρου.

[3] Strabo, *Fragm.* vii. 2.

of *Der Graue*. Ever so many etymologies have been suggested of this title; not one that is on all points satisfactory.[1] All I can say in defence of identifying

[1] The following are some of the more important etymologies of *graf*. Grimm, in his *Rechtsalterthümer*, writes: 'I shall venture a new guess. *Râvo* was in Old High-German *tignum, tectum, perhaps* also *domus, aula*; *garâvjo, girârjo, girâvo, would* signify *comes, socius*, like *gistallo*, and *gisaljo, gisello* This full form may *perhaps* be traced in old documents. It is supported by the Anglo-Saxon *gerêfa*, which in the sense of *socius, comes, præsul, tribunus*, corresponds completely with the Frankish *grafio*, and becomes in English *reeve, rif*; so that the abbreviated form *sherif* is to be explained as *scire-gerêfa*. The difficulty that the A.S. word does not sound *geræfa* (cf. *ræfter*, tignum, a rafter), I know not how to meet, except by the hypothesis that the Anglo-Saxons, too, borrowed the name and the dignity from the Franks, and therefore disfigured the vowel. We see from the lex 35 Edovardi Confess. (Canc. 4, 341 a) that *greve* was foreign to the genuine Anglo-Saxon law.'

The difficulties of this etymology are considerable. In O.H.G. *râvo* means a beam, not a house. If it meant 'a house,' then *girârjo* might have been derived from it in the sense of companion. This word *girârjo*, however, does not exist in O.H.G.; it is merely formed in analogy with *gisaljo* (*giselljo*), *Geselle*, i. e. sharing the same *sal* or house, and on the supposition that *râvo*, a rafter, may also have meant a house. Now if we consult historical documents, we find that in the earliest specimens of Old High-German, in the *Vocabularius St. Galli* (7th cent.), *præses* is rendered, not by *giravjo*, but by *graue*. In the *Vocabularius Optimus* (ed. *Wackernagel*, 1847, p. 38), i. e. in the 14th century, *comes* is still explained by *Graue, comitissa* by *Grafinna*. How then and at what time could *giravjo* have been changed into *graue*?

Secondly: if we try to apply the same etymology to the Anglo-Saxon *gerêfa*, we find that it refuses to be derived from O.H.G. *râvo*, beam, which exists in A.S. in the form of *ræf-ter*, rafter. According to this etymology the A.S. word would have been *geræfa*, not *gerêfa*. Grimm, in order to meet this difficulty, is driven to consider *gerêfa* as a foreign word in A.S., and he tries to show, but without success (see Schmidt, *Die Gesetze der Angelsachsen*, p. 597), that both the name and the dignity of *gerêfa* were simply taken over from the Franks. If the original form of *Graf* had been *giravjo*, how could it be explained that neither in German nor in Latin documents do we ever meet with the initial syllable *ge* or *gi*, but always with *gr*? There is one passage only

Gravio with O.H.G. *grâo*, gen. *grâwes*, is that the German word *grâo* may have passed through a Romanic channel. In this case *grâo* would have

where Waitz found *garafio* (see Leo Meyer, in Kuhn's *Zeitschrift*, v. p. 157).

Kemble, in his *Saxons in England*, ii. p. 151, proposed another etymology:

'The exact meaning and etymology of *geréfa*,' he writes, 'have hitherto eluded the researches of our best scholars, and yet, perhaps, few words have been more zealously investigated; if I add another to the number of attempts to solve the riddle, it is only because I believe the force of the word will become much more evident when we have settled its genuine derivation; and that philology has yet a part to play in history which has not been duly recognised. . . . I am naturally very diffident of my own opinion in a case of so much obscurity, and where many profound thinkers have failed of success; still it seems to me that *geréfa* may possibly be referable to the word *réfan* or *réfan*, to call aloud; if this be so, the names denote *bannitor*, the summoning or proclaiming officer, him by whose summons or proclamation the court and the levy of the foremen were called together; and this suggestion answers more nearly than any other to the nature of the original office. In this sense, too, a reeve's district is called his *mánung* bannum.'

Richthofen, in his *Altfriesisches Wörterbuch*, after rejecting the etymologies of Grimm, Spelman, Lappenberg, and others, takes up the defence of an old derivation of *Graf* from γράφειν, which Kemble had consigned 'to the storehouse of blunders.' 'Nothing remains,' says Richthofen, 'but to return to the opinion so common in old books, that the word is borrowed from the Greek γραφεύς, a writer.' He points to the French *greffier*, i. e. *graphiarius*, and he thinks that the word was introduced by the Franks into Germany, and from Germany imported into the Northern countries.

The chief objection to Richthofen's derivation is the fact that, according to Savigny's researches, the office of Graf was an old German office, and could not have had originally a Greek or Latin name. 'Whatever its etymology,' says Waitz, no mean authority, 'the name of *Graf* is certainly German.'

Prof. Leo Meyer (in Kuhn's *Zeitschrift*, v. 155) called attention to the Gothic *ga-grêfti* in the sense of command, as supplying an etymology of the O.H.G. *grâvo*, and he derived *gagrêfti* from the Sanskrit root kalp or klip. But this would be in defiance of Grimm's law, which requires a Sanskrit aspirate in place of the Gothic media. Kluge adopts a similar view.

become *gravo*, just as O.H.G. *blâo*, gen. *blâwes* became in mediæval Latin **blavo* and *blavus*. With the Latin termination *io*, we should then have *Gravio*.[1]

Over such a senate the German nations at an early time placed a *king*. In Latin the king is called *rex*, the Sanskrit râ*g* (râ*t*) and râ*g*an, in Mahârâ*g*a; and this *rex*, the French *roi*, meant originally *steersman*, from *regere*, to steer.[2]

The Teutonic nations, however, used a different word, namely *König* or *King*, and this corresponds to the Sanskrit *g*anaka, father. If we confined our attention to the Teutonic languages only, we should feel inclined to look upon A.S. *cyning* and *cyng* as derivatives of *cynn*, kin, γένος, in the sense of belonging to a family. But there is a great difference between a man belonging to a noble family, *ex nobilitate ortus*, a γενναῖος or *gentilis*, and a king. A king was not simply a nobleman among noblemen; it was his distinguishing character that he stood above them and aloof of them. Besides, we cannot well separate the German words, O.H.G. *chuninc*, Old Norse *konungr*, from Sanskrit *g*anaka, king, nor can we neglect the name for queen, as throwing light on the name for king. No one doubts that *queen*, the A.S. *cwên*, is the Sanskrit *g*âni, and no one doubts that *g*âni and *g*áni meant

[1] In this form the word is found in the Charta Chlodovei III apud Mabillonium, tom. III. SS. Ord. S. Benedicti, p. 617 (see Du Cange, s. v.); also in Paulus Warnefridus, lib. v., 'De Gestis Langob.,' cap. 36. *Grafio*, *graffio*, *graphio* are only modifications of the same word, all authenticated by passages from mediæval charters and books (see Du Cange, s. v.).

[2] Though in Sanskrit râ*g*an seems to be derived from râ*g*, to be brilliant, it is really derived from the root ar*g*, from which *rig*u, straight, and ra*g*ish*th*a, straightest.

woman and wife, because they originally meant *genetrix*, mother. If then the queen was originally called mother, what could the king have been called, if not father? In Sanskrit the transition of meaning is clear. *Ganaka* meant procreator, parent, then king (Pân. vii. 3, 35, schol.). The feminine *ganakî*, in the sense of mother and queen, does not exist in Sanskrit, but it has been traced in the Greek genitive *γυναικ-ός* from *γυνή* (see Curtius, in Kuhn's *Zeitschrift*, iv. 216).

The difficulties of deriving *chuninc* or *kuning* from *kuni* (genus), O.H.G. *chunni*, Old Norse *kyn*, were pointed out by Grimm (*Rechtsalterthümer*, p. 230). From *kyn*, he says, *kynîngr* only could have been formed, not *konûngr*. Richthofen, in his *Altfriesisches Wörterbuch*, p. 870, brings further evidence to show that this derivation is impossible. Grimm, however, thought that the German names for king might be derived from a word preserved in Old Norse as *kon-r*, in the sense of king. This *kon-r* is represented in the *Edda* (Rigsmal, 38) as the youngest son of *Jarl*, *Jarl* himself being the son of *Faðir ok Móðir*, father and mother. The words corresponding to O.N. *kon-r* in Gothic and Old High-German would have been *kun-s* and *chun*, and *chuninc*, king, might have been regularly derived from *chun*.

I hold, on the contrary, that O.N. *kon-r* and *konung-r*, O.H.G. *chuninc*, A.S. *cyning*, were common Aryan words, not formed out of German materials, but preserved as relics of an earlier period of language. It is only while *gana*, *ganaka*, and *gani* still conveyed the meaning of father and mother, and

not yet simply of man and woman that a word, meaning mother, could have assumed the meaning of queen (*cwên*), and a word meaning father, the meaning of king (*ganaka*, *konr*, *konungr*). In Gothic, however, as early as the fourth century, *qĭnô* and *qêns* mean already wife and woman only. In the eleventh century we read in Notker, *Sol chena iro charal furhten unde minnon*, 'a wife shall fear and love her husband.' After the fifteenth century the word is no longer used in High-German, but in the Scandinavian languages the word still lives on, *karl* and *kona* meaning man and wife. In English alone *Queen* has been preserved, as if the old meaning of mother in *cwên* had not yet been quite forgotten. If then *Queen* is the same word as Sanskrit *gâni*, *King* can only be the same word as Sanskrit *ganaka*.

We thus see how languages reflect the history of nations, and how, if properly analysed, almost every word will tell us of many vicissitudes through which it passed on its way from Central Asia to India or to Persia, to Asia Minor, Greece, and Italy, to Russia, Gaul, Germany, the British Isles, America, New Zealand; nay, back again, in its world-encompassing migrations, to India and the Himalayan regions from which it started. Many a word has thus gone the round of the world, and it may go the same round again and again. For although words may change in sound and meaning to such an extent that not one single letter remains the same, and that their meaning sometimes becomes the very opposite of what it originally was, yet it is important to observe, that

since the beginning of the world no new addition has ever been made to the substantial elements of speech, any more than to the substantial elements of nature. There is a constant change in language, a coming and going of words; but no man can ever invent an entirely new word. We speak to all intents and purposes substantially the same language as the earliest ancestors of our race; and, guided by the hand of scientific etymology, we may pass on from century to century through the darkest periods of the world's history, till the stream of language on which we ourselves are moving carries us back to those distant regions where we seem to feel the presence of our earliest forefathers, and to hear the voices of the earth-born sons of Manu.

Those distant regions in the history of language are, no doubt, the most attractive, and, if cautiously explored, full of instructive lessons to the historian and the philosopher. But before we ascend to those distant heights, we must learn to walk on the smoother ground of modern speech. The advice of Leibniz, that the Science of Language should be based on the study of modern dialects, has been but too much neglected, and the results of that neglect are visible in many works on Comparative Philology. Confining ourselves therefore for the present chiefly to the modern languages of Europe, let us see how we can establish the four fundamental points which constitute the *Magna Charta* of our science.

1. *The same Word takes different Forms in different Languages.*

This sounds almost like a truism. If the six dialects which sprang from Latin have become six independent languages, it would seem to follow that the same Latin word must have taken a different form in each of them. French is different from Italian, Italian from Spanish, Spanish from Portuguese, because the same Latin words were pronounced differently by the inhabitants of the countries conquered or colonised by Rome, so that, after a time, the language spoken by the colonists of Gaul grew to be unintelligible to the colonists of Spain. Nevertheless, if we are told that the French *même* is the same as the Italian *medesimo*, and that both are derived from the Latin *ipse*, we begin to see that even this first point requires to be carefully examined, and may help to strengthen our arguments against all etymology which trusts to vague similarity of sound or meaning.

How then can French *même* be derived from Latin *ipse*? By a process which is strictly genealogical, and which furnishes us with a safer pedigree than that of the Montmorencys, or any other noble family. In Old French *même* is spelt *meïsme*, which comes very near to Spanish *mismo* and Portuguese *mesmo*. The corresponding term in Provençal is *medesme*, which throws light on the Italian *medesimo*. Instead of *medesme*, Old Provençal supplies *smetessme*. In order to connect this with Latin *ipse*, we have only to con-

sider that *ipse* passes through Old Provençal *eps* into Provençal *eis*, Italian *esso*, Spanish *ese*, and that the Old Spanish *esora* represents *ipsâ horâ*, as French *encore* represents *hanc horam*. If *es* is *ipse*, *essme* would be *ipsissimum*, Provençal *medesme*, *metipsissimum*, and Old Provençal *smetessme*, *semetipsissimum*.[1]

To a certain point it is a matter of historical rather than of philological inquiry, to find out whether the English *beam* is the German *Baum*. *Beam* in Anglo-Saxon is *bêam*, Frisian *bâm*, Old Saxon *bâm* and *bôm*, Old High-German *paum*, Middle High-German *boum*, Modern High-German *Baum*. It is only when we come to Gothic that philological arguments come in, in order to explain the appearance of *g* before *m* in Gothic *bagm-s*, and the appearance of *đ* in Old Norse *bađm-r*.[2]

If we take any word common to all the Teutonic dialects, we shall find that it varies in each, and that it varies according to certain laws. Thus, *to hear* is in Gothic *hausjan*, in Old Norse *heyra*, in Old Saxon *hôrian*, in Anglo-Saxon *gehîeran*, in Old High-German *hôren*, in Swedish *höra*, in Danish *höre*, in Dutch *hooren*, in Modern German *hören*.

We have only to remember that English ranges, as far as its consonants go, with Gothic and Low-German, while Modern German belongs to the third or High-German stage, in order to discover without difficulty the meaning of many a German

[1] Diez, *Grammatik* and *Lexicon*, s. v.

[2] Grimm, *Deutsche Grammatik*, ii. 66; i. 261; Brugmann, *Vergleichende Grammatik*, § 179.

word by the mere application of Grimm's Law. Thus:—

I.	II.	III.
Drei is *three*	*Zehn* is *ten*	*Tag* is *day*
Du is *thou*	*Zagel* is *tail*	*Trommel* is *drum*
Denn is *then*	*Zahn* is *tooth*	*Traum* is *dream*
Durch is *through*	*Zaun* is *town*	*T(h)euer* is *dear*
Denken is *to think*	*Zinn* is *tin*	*T(h)au* is *dew*
Drang is *throng*	*Zerren* is *to tear*	*Taube* is *dove*
Durst is *thirst*	*Zange* is *tong*	*Teig* is *dough*

If we compare *tear* with the French *larme*, a mere consultation of historical documents would carry us from *tear* to the earlier forms, *taer*, *tehr*, *teher*, *tæher*, to the Gothic *tagr*. The A.S. *têar* or *tæher*, however, carries us back, as clearly as the Gothic *tagr*, to the corresponding form *dákry* in Greek, and (d)asru in Sanskrit. We saw before how every Greek and Latin *d* is legitimately represented in Anglo-Saxon by *t*, and *k* by *h*. Hence *têar* or *tæher* is *dákry*. In the same manner there is no difficulty in tracing the French *larme* back to Latin *lacruma*. The question then arises, are *dákry* and *lacruma* cognate terms? The secondary suffix *ma* in *lacruma* is easily explained, and we then have Greek *dákry* and Latin *lacru*, differing only by their initials. Here a phonetic law must remove the last difference. *L* is known to be a dialectic variety of *d*. *Dákry*, therefore, could vary with *lacru*, and both can be traced back to a root *dak*, to bite.[1]

The following table will show at a glance a

[1] See M. M., in Kuhn's *Zeitschrift*, v. 152; Pott, *Etymologische Forschungen*, ii. 58–60, 442, 450.

few of the descendants of the Latin preposition *ante*—

ANTE, before.

It. *anzi*; Sp. *ántes*; Old Fr. *ans, ains* (*ains-né* = *aîne*, elder; *puis-né*, younger).

ANTIANUS (Low-Latin).

It. *anziano*; Sp. *anciano*; Fr. *ancien*, old.

ANTE IPSUM.

Old Fr. *ainçois*, before.

ABANTE, from before.

It. *avanti*; Fr. *avant*, before.
It. *avanzare*; Sp. *avanzar*; Fr. *avancer*, to bring forward.
It. *vantaggio*; Sp. *ventaja*; Fr. *avantage*, advantage.

DEABANTE.

It. *davanti*; Fr. *devant*, before.
Fr. *devancer*, to get before.

If instead of Latin we begin with a Sanskrit word, and follow its relatives through their vicissitudes from the earliest to the latest times, we see no less clearly how inevitably one and the same word assumes different forms in different dialects. Tooth in Sanskrit is dat and *dánta* (nom. sing. dántah, but genitive, of the old base, datáh). The same word appears in Latin as *dens, dentis*, in Gothic as *tunthus*, in English as *tooth*, in Modern German as *Zahn*. All these dialectic changes are according to law, and it is not too much to say that in the different languages the common word for tooth could hardly have appeared under any form but that in which we find it. But is the Greek *odoús, odóntos*, the same word as *dens*? And is the Greek *odóntes*, the Latin *dentes*, a mere variety of *edontes* and *edentes*, the eaters? I am inclined to admit that the *o* in *odóntes* is a merely phonetic excrescence, for

although I know of no other well-established case in Greek where a simple initial *d* assumes this prosthetic vowel, it would be against all rules of probability to suppose that Greek had lost the common Aryan term for teeth, *danta*, and replaced it by a new and independent word so exactly like the one which it had given up. Prosthetic vowels are very common in Greek before certain double consonants, and before *r*, *l*, *n*, *m*.[1] The addition therefore of an initial *o* in *odóntes* may provisionally be admitted. But if so, it follows that *odóntes* cannot be a mere variety of *edontes*. For wherever Greek has these initial vowels, while they are wanting in Sanskrit, Latin, &c., they are, in the true sense of the word, prosthetic vowels. They are not radical, but merely adscititious in Greek, while if *odóntes* were derived from the root *ed*, we should have to admit the loss of a radical initial vowel in all the members of the Aryan family except Greek—an admission unsupported by any analogy.[2]

In languages which possess no ancient literature, the charm of tracing words back from century to century to its earliest form is of course lost. Contemporary dialects, however, with their extraordinary varieties, teach us even there the same lessons, showing that language must change and is always changing, and that similarity of sound is the same unsafe guide here as elsewhere. One instance must suffice.

[1] Curtius, *Grundzüge der Griechischen Etymologie*, ii. 291; Savelsberg, in Höfer's *Zeitschrift*, iv. p. 91.

[2] See Schleicher, *Compendium*, § 43; Brugmann, *Vergleichende Grammatik*, § 243.

Man in Malay is *orang*; hence *orang utan*, the man of the forest, the Orangutang. This *orang* is pronounced in different Polynesian dialects, *rang*, *oran*, *olan*, *lan*, *ala*, *la*, *na*, *da*, and *ra*.[1]

We now proceed to a consideration of our second point.

2. *The same Word takes different Forms in the same Language.*

There are, as is well known, many Teutonic words which, through two distinct channels, found their way twice into the literary language of Chaucer, Shakespeare, and Milton. They were imported into England at first by Saxon pirates, who gradually dislodged the Roman conquerors and colonists from their *castra* and *coloniæ*, and the Welsh inhabitants from their villages, and whose language formed the first permanent stratum of Teutonic speech in these islands. They introduced such words as, for instance, *weardian*, to ward, *wile*, cunning, *wise*, manner. These words were German words, peculiar to those soft dialects of German which are known by the name of Low-German, and which were spoken on those northern coasts from whence the Juts, the Angles, and Saxons embarked on their freebooting expeditions.

Another branch of the same German stem was the High-German, spoken by the Franks and other Teutonic tribes, who became the conquerors of Gaul, and who, though they adopted in time the language

[1] Logan, *Journal of Indian Archipelago*, iii. p. 665.

of their Roman subjects, preserved nevertheless in their conversational idiom a large number of their own home-spun words. The language of the French or Franks is now a Romanic dialect, and its grammar is but a blurred copy of the grammar of Cicero. But its dictionary is full of Teutonic words, more or less Romanised to suit the pronunciation of the Roman inhabitants of Gaul. Among warlike terms of German origin, we find in French *guerre*, the same as *war*; *massacre*, from *metzeln*, to cut down, or *metzgen*, to butcher, which was itself originally derived from Latin *macellum*, meat-market; *macellarius*, butcher. *Auberge*, Italian *albergo*, the German *Herberge*, barracks for the army, is the Old High-German *heriberga*; *bivouac*, the German *Beiwacht*; *boulevard*, German *Bollwerk*; *bourg*, German *Burg*; *brèche*, a breach, from *brechen*; *havresac*, German *Hafersack*; *haveron*, Old High-German *habaro*, oats;[1] *canapsa*, the German *Knappsack*, i. e. *Ess-sack*, from *knappen*, *knabern*, or *Schnappsack*;[2] *éperon*, Italian *sperone*, German *Sporn*; *héraut*, Italian *araldo*, German *Heerwalt*, while the modern German *Herold* is borrowed from the Old French *héralt*, modern French *hérault*.

Many maritime words, again, came from German, more particularly from Low-German. French *chaloupe* = *Sloop*, Dutch *sloep*; *cahute* = Dutch *kajuit*, German *Kaue*, or *Koje*; *stribord*, the right side of a ship, English *starboard*, Anglo-Saxon *steorbord*,

[1] See M. M., *Über Deutsche Schattirung Romanischer Worte* in Kuhn's *Zeitschrift*, v. p. 14.

[2] Danneil, *Wörterbuch der Altmärkisch-plattdeutschen Mundart*, 1859, s. v.

Steuerbord; *hâvre*, *Hafen*; *Nord*, *Sud*, *Est*, *Ouest*, all came from German.

But much commoner words are discovered to be German under a French disguise. Thus, *haie*, hedge, is the Old High-German *hag*, the modern German *Hag* and *Gehaege*, the English *haw*, and probably *haha*.[1] It is preserved also in *hips and haws*. *Haïr*, to hate, is Anglo-Saxon *hatian*. *Hameau*, hamlet, is *Heim*; *hâter*, is to haste; *honnir*, to blame, is Gothic *háunjan*, *höhnen*; *harangue* is *(h)ring*, as in ring-*leader*. The initial *h* betrays the German origin of all these words. Again, *choisir*, to choose, is *kiesen*, A.S. *céosan*, Gothic *kiusan*; *danser*, *tanzen*; *causer*, to chat, *kosen*; *dérober*, to rob, *rauben*; *épier*, to spy, *spähen*; *gratter*, *kratzen*; *grimper*, to climb, *klimmen*; *grincer*, *grinsen*, or Old High-German *grimisôn*; *gripper*, *greifen*; *rôtir*, *rösten*; *tomber*, to tumble; *guinder*, to wind; *déguerpir*, to throw away, *werfen*.[2]

It was this language, this Germanised Latin, which was adopted by the Norman invaders of France, themselves equally Teutonic, and representing originally that third branch of the Teutonic stock of speech which is known by the name of Scandinavian. These Normans, or Northmen, speaking their newly-acquired Franco-Roman dialect, became afterwards the victors of Hastings, and their language, for a time, ruled supreme in the palaces, law courts,

[1] Capitulaires de Charles le Chauve, tit. xxxvi.: 'Quicunque istis temporibus castella et firmitates et haias sine nostro verbo fecerint.' Brachet, *Diction. étymologique*.

[2] See Diez, *Grammatik der Romanischen Sprachen*, passim. Borring, *Sur la Limite méridionale de la Monarchie danoise*.

churches, and colleges of England. The same thing, however, which had happened to the Frank conquerors of Gaul and the Norman conquerors of Neustria happened again to the Norman conquerors of England. They had to acquire the language of their conquered subjects; and as the Franks, though attempting to speak the language of the Roman provincials, retained large numbers of barbaric terms, the Normans, though attempting to conform to the rules of the Saxon grammar, retained many a Norman word which they had brought with them from France.

Thus the German word *wise* was common to the High and the Low branches of the German language; it was a word as familiar to the Frank invaders of Gaul as it was to the Saxon invaders of England. In the mouths of the Roman citizens of France, however, the German initial *W* had been replaced by the more guttural sound of *gu*.[1] *Wise* had become *guise*, and in this new form it succeeded in gaining a place side by side with its ancient prototype, *wise*. By the same process *guile*, the old French *guile*, was adopted in English, though it was the same word originally as the Anglo-Saxon *wile*, which we have in *wily*. The changes have been more violent through which the Old High-German *wetti*, a pledge (Gothic *wadi*), became changed into the mediæval Latin *wadium* or *vadium*,[2] Italian

[1] Exactly the same transition took place in Biluchi. Here *gw* represents an original *v* before *a*, *g* represents *v* before *i*. Thus *gwark* is wolf, Zend *vehrko*, and *gist* is twenty, Zend *visaiti*. See Geiger, *Die Dialect-spaltung in Balûchî*, 1889, p. 84.

[2] Diez, *Lexicon Comparativum*, s. v.

gaggio, and French *gage*. Nevertheless, we must recognise in the verbs *to engage* or *disengage* Norman varieties of the same word, which is preserved in the pure Saxon forms *to bet* and *to wed*,[1] literally to bind or to pledge.

There are many words of the same kind which have obtained admittance twice into the language of England, once in their pure Saxon form, and again in their Romanic disguise. Words beginning in Italian with *gua, gue, gui* are almost invariably of German origin. A few words are mentioned, indeed, in which a Latin *v* seems to have been changed into *g*. But as, according to general usage, Latin *v* remains *v* in the Romanic dialects, it would be more correct to say that in these exceptional cases Latin words had first been adopted and corrupted by the Germans, and then, as beginning with German *w*, and no longer with Latin *v*, been readopted by the Roman provincials.

These exceptional cases, however, are very few, and somewhat doubtful. It was natural, no doubt, to derive the Italian *guado*, a ford, the French *gué*, from Latin *vadum*. But the initial *gua* points first to German, and there we find in Old High-German *wat*, a ford, *watan*, to wade. The Spanish *vadear* may be derived from Latin, or it may owe its origin to a confusion in the minds of those who were speaking and thinking in two languages, a Teutonic and a Romanic. The Latin *vadum* and the German *wat* may claim a distant relationship.

[1] In the North one still hears such expressions as 'I'll wad ye a pound'; 'I'll wad it is so.'

Guère in *je ne crois guère* was for a time traced back to *parum*, *varium*, *valide*, *avare*, or *grandem rem*, the Provençal *granren*. But, like the Italian *guari*, it really comes from *wâri*, true, which gradually assumed the meaning of *very*.[1] The Latin *verus* changes to *vero*, while *vrai*, Old French *verai*, comes from mediæval Latin *veragus*, a secondary form of *verax*.

Guastare, French *gâter*, has been traced back to Latin *vastare*; but it is clearly derived from Old High-German *wastjan*, to waste, though again a confusion of the two words may be admitted in the minds of the bilingual Franks.

Guêpe, wasp, is generally derived from *vespa*; it really comes from the German *Wespe*.[2]

It has frequently been pointed out that this very fact, the double existence of the same word (*warden* and *guardian*, &c.), has added much to the strength and variety of English. Slight shades of meaning can thus be kept distinct, which in other languages must be allowed to run together. The English *fresh*, A.S. *fersc*, *frisky*, and *brisk*,[3] all come, according to Grimm, from the same source.[4] Yet there is a great difference between a brisk horse, a frisky horse, and

[1] Diez, *Lexicon Comp.* s. v., second edition, proposes *weiger* instead of *wâri*.

[2] In Ital. *golpe* and *volpe*, Span. *vulpeja*, Fr. *goupil*, Lat. *vulpecula*, and a few more words of the same kind, mentioned by Diez (p. 267), the cause of confusion is less clear; but even if admitted as real exceptions, or as due to false analogy, they would in no way invalidate the general rule.

[3] *Brisk* comes from Welsh *brysg*.

[4] Grimm, *Deutsche Grammatik*, ii. 63, *friskan*, *frask*, *fruskun*; O.H.G. *friscing*, victima (caro recens), *frischling*, porcellus.

a fresh horse—a difference which it would be difficult to express in any other language. It is a cause of weakness in language if many ideas have to be expressed by the same word, and *fresh* in English, though relieved by *brisk*, and *frisky*, embraces still a great variety of conceptions. We hear of a fresh breeze, of fresh water (opposed to stagnant), of fresh butter, of fresh news, of a fresh hand, a freshman, of freshness of body and mind; and such a variation as a brisk fire, a brisk debate, is therefore all the more welcome. *Fresh* has passed through a Latin channel, as may be seen from the change of its vowel, and to a certain extent from its taking in *refresh-ment* the suffix *ment*, which is generally, though not entirely, restricted to Latin words.[1] Under a thoroughly foreign form it exists in English as *fresco*, in *fresco-paintings*, so called because the paint was applied to the walls whilst the plaster was still fresh or damp.

The same process explains the presence of double forms, such as *ship* and *skiff*, the French *esquif*; from which is derived the Old French *esquiper*, the Modern French *équiper*, the English *to equip*. Or again, *sloop* and *shallop*, the French *chaloupe*. Thus *bank* and *bench* are German; *banquet* is German Romanised. *Bar* is German (O.H.G. *para*); *barrier* is Romanised, cf. Span. *barra* a bar, French *embarras*, and English *embarrassed*. *Ball* is German; *balloon* Romanised. *To pack* is German; *bagage* Romanised. *Ring*, a circle, is German; O.H.G. *hring*; to *harangue*, to

[1] After Saxon verbs, *ment* is found in *shipment, fulfilment, forebode-ment*.

address a ring, to act as a ringleader, is Romanised; It. *aringa*, Fr. *la harangue*.

Sometimes it happens that the popular instinct of etymology reacts on these Romanised German words, and, after tearing off their foreign mask, restores to them a more homely expression. Thus the German *Krebs*, the O.H.G. *krëbiz*, is originally the same word as the English *crab*. This *krëbiz* appears in French as *écrevisse*; it returned to England in this outlandish form, and was by an off-hand etymology reduced to the Modern English *crayfish*.

It will hardly be believed, but there is the *Times* of March 28, 1885, to prove it, that in an action brought by *Caygill* v. *Thwaite* a question was raised and stated by justices, whether crayfish are 'fish' within the meaning of the Larceny Act (24 and 25 Victoria, c. 96). The magistrates were of opinion that they could not legally convict a man for taking crayfish, because crayfish are invertebrate animals, and a species of crustacea, and not fish within the meaning of the Act. The judge, however, Mr. Justice Mathew, decided that crayfish came within the Act. 'He really could give no better reason for his decision,' he said, 'than that crayfish are fish. Probably the magistrates thought that shell-fish were not within the Act. But there was no reason why they should not be, for they were within the mischief of the Act when they were taken in a private fishery.' The last argument may be quite just, but unless the O.H.G. *krëbiz* had been changed into Fr. *écrevisse*, and this into *crayfish*, no one would probably ever

have thought of mooting the question whether crayfish were fish.

And as the German elements entered into the English language at various times and under various forms, so did the Latin. Latin elements flowed into England at four distinct periods, and through four distinct channels.

First, through the Roman legions and Roman colonists, from the time of Cæsar's conquest, 55 B. C., to the withdrawal of the Roman legions in 412: e.g. *colonia* = *coln*; *castra* = *chester* (ceastra); *stratum* = *street* (strǽt).

Secondly, through the Christian missionaries and priests, from the time of St. Augustine's landing in 597 to the time of Alfred: e.g. *candela* = *candle*; *Kyriake* = *church*; *decanus* = *dean*; *regula* = *rule*; *corona* = *crown*; *discus* = *dish*; *uncia* = *inch*.

Thirdly, through the Norman nobility and Norman ecclesiastics and lawyers, who, from the days of Edward the Confessor, brought into England a large number of Latin terms, either in their classical or in their vulgar and Romanised form.

Fourthly, through the students of the classical literature of Rome, since the revival of learning to the present day.

These repeated importations of Latin words account for the coexistence in English of such terms as *minster* and *monastery*. *Minster* found its way into English through the Christian missionaries, and is found in its corrupt or Anglicised form in the earliest documents of the Anglo-Saxon language. *Monastery* was the same word, as pronounced by later scholars, or

clergymen, familiar with the Latin idiom. Thus *paragraph* is the Latin *paragraphus*, but slightly altered; *pilcrow*, *pylcrafte*, and *paraf*, are vulgar corruptions of the same word.[1] Arithmetic in the middle ages was called *Awgrim* or *algrim*. The idea which children at school connected with the name, requires no explanation. But even more extraordinary is the etymology of the word suggested by the author of an early English treatise, *Craft of Algrim*, mentioned in Mr. Thomas Wright's edition of the *Alliterative Poem on the Deposition of King Richard II.*, 1838, p. 58.

'The name of this craft is in Latyn *Algorismus*, and in English *Algrim*, and it is namid off *Algos*, that is to say, craft, and *rismus*, that is, nounbre, and ffor this skille it is called craft of nounbringe. Or it is named off *en*, that is, in, and *gogos*, that is, ledyng, and *rismus*, that is, nounbre, as to say, ledynge in to nounbre. Or it is named after the Philozophare that ffrist contrevyd it, wos name was *Algus*, &c.'

The real origin of the word *algorismus* is explained by M. Reinaud in his *Mémoire sur l'Inde*, p. 303.

'Je me permettrai ici une conjecture. Dans les traités latins du moyen âge, le nouveau système de numération est désigné par la dénomination d'*Algorismus* ou *Algorithmus*. D'un autre côté, les mots *Algorismus* et *Alkhorismus* et *Algorithmus* servent à désigner un écrivain arabe surnommé *Al-Kharizmy* ou *le Kharizmin*, du nom du *Kharizm*, sa patrie; et cet écrivain s'était occupé de la science des nombres. Il me paraît que le nom donné au nouveau système de numération n'est pas autre que celui du personnage dont les écrits, traduits en latin, avaient répandu la connaissance de ce système en Occident.'

This native of Kharizm, quoted as *Alchoarizam*

[1] See *Promptorium Parvulorum*, p. 398.

magister Indorum, was really Mohammed ben Musa, who wrote in the first half of the ninth century, and whose treatise on Algebra was at an early time translated into Latin.[1]

In a similar way, the verb *to blame* became naturalised in England through the Norman Conquest. The original Latin or Greek word from which the French *blâmer* was derived kept its place in the form of *to blaspheme* in the more cultivated language of the realm. *Triumph* was a Latin word, naturally used in the ecclesiastical and military language of every country. In its degraded form, *la triomphe*, it was peculiar to French, and was brought into England by the Norman nobility as *trump, trump card*.[2]

We can watch the same process more fully in the history of the French language. That language teems with Latin words which, under various disguises, obtained repeated admittance into its dictionary. They came first with the legions that settled in Gaul, and whose more or less vulgar dialects supplanted the Celtic idiom of the country. They came again in the track of Christian missionaries, and not unfrequently were smuggled in for the third time by the classical scholars of a later age. The Latin *sacramentum*, in its military acceptation, became the French *serment*; in its ecclesiastical meaning it appears as *sacrement*. *Redemptio*, in its military sense, became the French *rançon*, ransom; in its religious meaning it preserved the less mutilated form of *redemption*. Other words belonging to the

[1] See vol. i. p. 201.

[2] Trench, *On Words*, p. 156.

same class are *acheter*, to buy, *accepter*, to accept, both derived from the Latin *acceptare*. *Chétif*, miserable (sometimes pronounced *ch'ti*),[1] and *captif*, both from Latin *captivus*. *Chose*, a thing, *cause*, a cause, both from Latin *causa*. *Façon* and *faction*, from Latin *factio*; meaning originally the manner of doing a thing, then peculiarity, then party. Both *fraile* and *fragile* come from *fragilis*. *On* and *l'homme*, from *homo*. *Noël*, Christmas, and *natal*, from *natalis*. *Naïf* and *natif* from *nativus*. *Parole* and *parabole* from *parabola*. *Penser*, to weigh or ponder in one's mind, and *peser*, to weigh on scales, both come from Latin *pensare*. *Pension* also is derived from *pensum*. In Latin, too, *expendo* is used in the sense of spending money, and of weighing or considering.[2]

The Latin pronoun *ille* exists in French under two different forms. It is the *il* of the pronoun of the third person, and the *le* of the definite article. Of course it must not be supposed for a moment that by any kind of agreement *ille* was divided into two parts, *il* being put aside for the pronoun, and *le* for the article. The pronoun *il* and *elle* in French, *egli* and *ella* in Italian, *el* and *ella* in Spanish, are nothing but provincial varieties of *ille* and *illa*. The same words, *ille* and *illa*, used as articles, and therefore pronounced more rapidly, became gradually changed from *il*, which we see in the Italian *il*, to *el*, which we have in Spanish; to *lo* (illum), which exists in Provençal and in Italian (lo spirito); and to *le*, which appears in Provençal dialects and in French.

[1] *Revue critique*, i. p. 359.

[2] *Biographies of Words*, p. 67.

As there are certain laws which govern the transition of Latin into French and Italian, it is easy to determine whether such a word as *opera* in French is of native growth, or imported from Italian. French has invariably shortened the final *a* into *e*, and a Latin *p* in the middle of words is generally changed into French *b* or *v*. This is not the case in Italian. Thus the Latin *apis*, a bee, becomes in Italian *ape*, in French *abeille*.[1] The Latin *capillus* is the Italian *capello*, the French *cheveu*. Thus *opera* has become *œuvre* in French, whereas in Italian it remained *opera*,[2] Spanish *obra*.

There is a small class of words in French which ought to be mentioned here, in order to show under how many disguises words have slipped in again and again into the precincts of that language. They are words neither Teutonic nor Romanic, but a cross between the two. They are Latin in appearance, but it would be impossible to trace them back to Latin, unless we knew that the people who spoke this Latin were Germans who still thought in German. If a German speaks a foreign tongue, he commits

[1] Diez, *Romanische Grammatik*, i. 177. There are exceptions to this rule; for instance, Italian *riva*, for *ripa*; *savio* for *sapio*; and in French, such words as *vapeur*, *stupide*, *capitaine*, Old French *chevetain*.

[2] Ibid. ii. 20. Opera is not the Latin *opus*, used as a feminine, but the plural of *opus*. Such neutral plurals were frequently changed into Romanic feminines, and then used in the singular. Thus Latin *gaudia*, plural neut., is the French *joie*, fem. sing., Italian *gioja*. A diminutive of the French *joie* is the Old French *joel*, a little pleasure; the English *jewel*, the French *joyau*.

Latin *arma*, neut. plur.		Italian and Sp. *arma*	Fr. *l'arme*
,, *folia*	,,	It. *foglia*	Fr. *feuille*
,, *vela*	,,	It. and Sp. *vela*	Fr. *voile*
,, *batualia*	,,	It. *battaglia*	Fr. *bataille*.

certain mistakes which a Frenchman never would commit, and *vice versâ*. A German speaking English would be inclined to say *to bring a sacrifice*; a Frenchman would never make that mistake. A Frenchman, on the contrary, is apt to say that he cannot *attend* any longer, meaning that he cannot wait any longer. Englishmen, again, travelling abroad, have been heard to call for *Wächter*, meaning the waiter; they have declared, in German, *Ich habe einen grossen Geist Sie nieder zu klopfen*, meaning they had a great mind to knock a person down; and they have announced in French, *J'ai changé mon esprit autour de cette tasse de café*, meaning that they had changed their mind about a cup of coffee.

There are many more mistakes of that kind, which grammarians call Germanisms, Gallicisms, or Anglicisms, and for which pupils are constantly reproved by their masters.

Now the Germans who came to settle in Italy and Gaul, and who learnt to express themselves in Latin *tant bien que mal*, had no such masters to reprove them. On the contrary, their Roman subjects did the best they could to understand their Latin jargon, and, if they wished to be very polite, they would probably repeat the mistakes which their masters had committed. In this manner, the most ungrammatical, the most unidiomatic phrases would, after a time, become current in the vulgar language.[1]

[1] Castelvetro, in his *Correttione d'alcune cose del dialogo delle lingue di Benedetto Varchi, et una giunta al primo libro delle Prose di M. Pietro Bembo*: Basilæa, 1572, expressed the same view in almost the same words: 'Et cominciarono i fanciulli italiani a dimesticarsi, et

No Roman would have expressed the idea of entertaining or amusing by *intertenere*. Such an expression would have conveyed no meaning at all to Cæsar or Cicero. The Germans, however, were accustomed to the idiomatic use of *unterhalten*, *Unterhaltung*; and when they had to make themselves understood in Latin, they probably rendered *unter* by *inter*, *halten* by *tenere*, and thus formed *entretenir*, a word owned neither by Latin nor by German.

It is difficult, no doubt, to determine in each case whether words like *intertenere*, in the sense of entertaining, were formed by Germans speaking in Latin but thinking in German, or whether one and the same metaphor suggested itself both to Romans and Germans. It might seem at first sight that the French *circonstance*, circumstance, was a barbarous translation of the German *Umstand*, which expresses the same idea by exactly the same metaphor. But if we consult the later Latin literature, we find there, in works which could hardly have experienced any influence of German idiom, *circumstantia*, in the sense of quality or accident; and we learn from Quintilian, v. 10, 104, that the word had been formed in Latin as an equivalent of the Greek *perístasis*.

In other cases, however, it admits of no doubt that words now classical in the modern languages of Europe were originally the unidiomatic blunders of

a mescolarsi co' fanciulli longobardi, cui havendo rispetto, et portando honore per la signoria che havevano sopra se, cercarono di rassomigliare le parole guaste insegnate loro dalle nutrici, et dalle madri, et da padri poco puramente parlanti.' (p. 154.)

Germans attempting to express themselves in the Latin of their conquered provinces.

The future is called in German *Zukunft*, which means 'what is to come.'[1] There is no such word in ancient Latin, but the Germans again translated their conception of future time literally into Latin, and thus formed *l'avenir*, what is to come, *ce qui est à venir*. *L'avenir* cannot be simply the Latin *advenire*, for *l'avenir* means what is to come,—as Browning says, 'Chain the to-come,'—while *advenire* would only mean the coming.

One of the many German expressions for sick or unwell is *unpass*. It is used even now, *unpässlich*, *Unpässlichkeit*. The corresponding Latin expression would have been *æger*, but instead of this we find the Provençal *malapte*, It. *malato*, Fr. *malabde* and *malade*. *Aptus*, in the sense of fit or well, occurs as *ate*.[2] *Malapte* is therefore the Latin *male-aptus*, meaning *unfit*, again an unidiomatic rendering of *unpass*. What happened was this. *Male-aptus* was at first as great a mistake in Latin as if a German speaking English were to take *unpass* in the sense of *unpassend*, and were to say, 'that he was unfit,' meaning he was unwell. But as there was no one to correct the German lords and masters, the expression *male-aptus* was tolerated, was probably repeated by good-natured Roman physicians, and became after

[1] In Klaus Groth's *Fiv nie Leder ton Singn un Beden vær Schleswig-Holsteen*, 1864, *tokum*, i. e. to come, is used as an adjective: 'Se kamt wedder to tokum Jahr.'

[2] In *Barlaam et Josaphat* (p. 26, v. 21), Josaphat asks whether all men are ill, and the answer is: 'Nenil, ates i a assés.' Cf. Gaston Paris, *Mémoires de la Société de Linguistique*, tom. i. p. 91.

a time a recognised term. M. Brachet derives *malade* from *male habitus*; but does this expression ever occur in mediæval Latin?

One more word of the same kind, the presence of which in French, Italian, and English it would be impossible to explain except as a Germanism, as a blunder committed by people who spoke in Latin, but thought in German.

Gegend in German means region or country. It is *Gegenôte* in Old High-German, and it signified originally that which is before or against, what forms the object of our view. Now in Latin *gegen*, or against, would be expressed by *contra*; and the Germans, not recollecting at once the Latin word *regio*, took to translating their idea of *Gegend*, that which was before them, by *contratum*, or *terra contrata*. This became the Italian *contrada*, the French *contrée*, the English *country*.[1]

[1] Cf. M. M., *Ueber Deutsche Schattirung Romanischer Worte*, in Kuhn's *Zeitschrift*, v. 11. Kluge imagines that the German *Gegend* was a translation of French *contrée*. See Caix, *Saggio della Storia della Lingua e dei dialetti d' Italia*, p. lii.

I take this opportunity of stating that I never held the opinion ascribed to me by M. Littré (*Journal des Savants*, avril 1856; *Histoire de la Langue française*, 1863, vol. i. p. 94), with regard to the origin of the Romanic languages. My object was to explain certain features of these languages, which, I hold, would be inexplicable if we looked upon French, Italian, and Spanish merely as secondary developments of Latin. They must be explained, as I tried to show, by the fact that the people in whose minds and mouths these modern dialects grew up, were not all Romans or Roman provincials, but tribes thinking in German and trying to express themselves in Latin. It was this additional disturbing agency to which I endeavoured to call attention, without for a moment wishing to deny other more normal and generally admitted agencies which were at work in the formation of the Neo-Latin dialects, as much as in all other languages advancing from what

Accidents like those which we have hitherto discussed are, no doubt, more frequent in the modern history of speech, because, owing to ethnic migrations and political convulsions, the dialects of neighbouring or distant races have become mixed up together more and more with every century that has passed over the ethnological surface of Europe. But in ancient times also there had been migrations, and wars, and colonies, causing a dislocation and intermixture of the various strata of human speech, and the literary languages of Greece and Rome, however uniform they may seem to us in their classical writings, had grown up, like French or English, by a constant process of absorption and appropriation, exercised on the various dialects of Italy and Greece. What happened in French happened in Latin. As the French are no longer aware that their *paysan*, a peasant, and *païen*, a pagan, were originally but slight dialectic varieties of the same Latin word *paganus*, a villager, the citizen of Rome used the two words *luna*, moon, and *Lucina*, the goddess, without being aware that both were derived from the same root. If *luna* is derived from a root *luk*, not *luks*,

has been called a synthetic to an analytic state of grammar. In trying to place this special agency in its proper light, I may have expressed myself somewhat incautiously; but if I had to express again my own view on the origin of the Romanic languages, I could not do it more clearly and accurately than in adopting the words of my eminent critic: 'A mon tour, venant, par la série de ces études, à m'occuper du débat ouvert, j'y prends une position intermédiaire, pensant que, essentiellement, c'est la tradition latine qui domine dans les langues romanes, mais que l'invasion germanique leur a porté un rude coup, et que de ce conflit où elles ont failli succomber, et avec elles la civilisation, il leur est resté des cicatrices encore apparentes et qui sont, à un certain point de vue, ces nuances germaniques signalées par Max Müller.'

then the final *c* is elided, not by caprice or accident, but according to a general phonetic rule which sanctions the omission of a guttural before a liquid. Thus *lumen*, light, stands for *lucmen*; *examen* for *exagmen* (but *agmen*); *flamma*, flame, for *flagma*, from *flagrare*, to burn; *flamen* for *flagmen*, the lighter, the priest (not *brahman*); *lanio*, a butcher, if derived from a root akin to *lacerare*, to lacerate, stands for *lacnio*. *Contaminare*, to contaminate, is certainly derived from the same verb *tango*, to touch, from which we have *contagio*, contagion, as well as *integer*, intact, entire. *Contaminare*, therefore, was originally *contagminare*. This is in fact the same phonetic rule which, if applied to Greek and Latin, helps us to discover the identity of the Greek *láchnē*, wool, and Latin *lâna*; of Greek *árachnē*, a spider, and Latin *arânea*.[1] Though a scholar like Cicero[2] might have been aware that *ala*, a wing, was but an abbreviated form of *axilla*, the arm-pit, the two words were as distinct to the common citizen of Rome as *païen* and *paysan* to the modern Frenchman. *Tela*, a web, must, on the same principle, be derived from *texela*,

[1] I prefer decidedly to take *lâna* = λάχνη, and not, as Curtius does (p. 344), as = Sk. v l â n a. V l â n a does not exist in Sanskrit, but only u r n â, which is the same as Lit. *vilna*, Gothic *wulla*. From the same root *var*, to cover, we have in Latin *vellus* and *villus*, in Greek εἶρος. L â n a, on the contrary, and λάχνη come from a root *rak* and *lak*, to plat, to spin, from whence *Lachesis*, like *klôthô*, the spinning Parca. See Kuhn's *Zeitschrift*, v. p. 142; vii. p. 174; xii. p. 378.

[2] 'Quomodo enim vester *Axilla Ala* factus est nisi fugâ literæ vastioris, quam literam etiam e *maxillis* et *taxillis* et *vexillo* et *paxillo* consuetudo elegans Latini sermonis evellit.'—Cicero, *Orat.* 45, § 153. In spite of this, Latin dictionaries give *axilla* as a diminutive of *ala*. *Ala* may be compared with O.H.G. *ahsala*, but the phonetic change, the loss of *cs* in *ax'la*, took place on Latin soil.

and this from the verb *texere*, to weave. Thus *mala*, the cheek, is derived from *maxilla*, the jawbone, and *velum*, a sail or veil, from *vexillum*, anything flying or moved by the wind, a streamer, a flag, or a banner, simply, as Cicero says, by the *consuetudo elegans Latini sermonis*. Once in possession of this rule, we are able to discover even in such modern and metamorphosed words as *subtle*, the same Latin root *texere*, to weave, which appeared in *tela*. From *texere* was formed the Latin adjective *subtilis*, that which is woven under or beneath, with the same metaphor which leads us to say *fine spun*; and this *subtilis* dwindled down into the English *subtle*.

Other words in Latin, the difference of which must be ascribed to the influence of local pronunciation, are *cors* and *cohors*, *nil* and *nihil*, *mi* and *mihi*, *prendo* and *prehendo*, *prudens* and *providens*, *bruma*, the winter solstice, and *brevissima*, scil. *dies*, the shortest day.[1] Thus, again, *susum* stands for *sursum*, upward, from *sub* and *versum*. *Sub*, it is true, means generally below, under; but, like the Greek *hypó*, it is used in the sense of 'from below,' and thus may seem to have two meanings diametrically opposed to each other, *below* and *upward*. *Submittere* means to place below, to lay down, to submit; *sublevare*, to lift from below, to raise up. *Summus*, a superlative of *sub*, *hýpatos*, a superlative of *hypó*, do not mean the lowest, but the highest.[2] As *sub-versum* glides into

[1] Pott, *Etymologische Forschungen*, i. p. 645.

[2] The Sanskrit upa and upari have been compared with Greek ὑπό and ὑπέρ, Latin *sub* and *super*, Gothic *uf* and *ufar*. The initial *s*, however, is difficult to account for.

sursum and *susum*, so *retroversum* becomes *retrorsum*, *retrosum*, and *rursum*. *Proversum* becomes *prorsum*, originally *forward*, straightforward; and hence *oratio prosa*, straightforward speech or prose, opposed to *oratio vincta*, fettered or measured speech, poetry.[1]

We find a very similar result, local variety produced by muscular relaxation, when we compare German *Nagel* with *nail*, *Zagel* with *tail*, *Hagel* with *hail*, *Riegel* with *rail*, *Regen* with *rain*, *Pflegel* with *flail*, *Segel* with *sail*, &c.

Now as we look upon Æolic and Doric, Ionic and Attic, as dialects of one and the same language; as we discover in the Romanic languages mere varieties of the Latin, and in the Scandinavian, the High-German, and Low-German, only three branches of one and the same stock, we must learn to look upon Greek and Latin, Teutonic and Celtic, Slavonic, Sanskrit, and the ancient Persian, as so many varieties of one and the same original speech, which were fixed after many centuries as literary and classical languages. Taking this point of view, we shall be able to understand how what happens in the modern, happened in the ancient periods of the history of language. The same word, with but slight dialectic variations, exists in Greek, Latin, Gothic, and Sanskrit; and vocables, which at first sight appear totally different, are separated from each other by no greater difference than that which separates an Italian word from its cognate term in French. There is little similarity to the naked eye between *pen* and *feather*, yet if placed

[1] Quint. 9, 4: 'oratio alia vincta atque contexta, alia soluta.'

under the microscope of comparative grammar, both words disclose exactly the same structure. Both are derived from a root pat, which in Sanskrit means to fly, and which is easily recognised in the Greek *petomai*, I fly. From this root a Sanskrit word is derived by means of the instrumental suffix tra, pat-tra, or pata-tra, meaning the instrument of flying, a wing, or a feather. From the same root another substantive was derived, which became current in the Latin dialect of the Aryan speech, *patna* or *petna*, meaning equally an instrument of flying, or a feather. This *petna* became changed into *penna*, a change which rests not merely on phonetic analogy, but is confirmed by Festus, who mentions the intermediate Italian form, *pesna*.[1] The Teutonic dialect retained the same derivative which we saw in Sanskrit, only modifying its pronunciation according to rule. Thus patra had to be changed into phathra, in which we easily recognise the English *feather*. Thus *pen* and *feather*, the one from a Latin, the other from a Teutonic source, are established as merely phonetic varieties of the same word, analogous in every respect to such double words as those which we pointed out in Latin, which we saw in much larger numbers in French, and which impart not only the charm of variety, but the power of minute exactness to the language of Chaucer, Shakespeare, and Milton.

[1] Cf. Greek ἐρετμός, Latin *resmus* and *remus*. *Triresmos* occurs in the inscription of the Columna Rostrata.

3. *Different Words take the same Form in different Languages.*

We have examined in full detail two of the propositions which serve to prove that in scientific etymology identity of origin is in no way dependent on identity of sound or meaning. If words could for ever retain their original sound and their original meaning, language would have no history at all. There would have been no confusion of tongues, and our language would still be the language of our first ancestors. But it is the very nature of language to grow and to change, and unless we are able to discover the rules of this change, and the laws of this growth, we shall never succeed in tracing back to their original source and primitive import the manifold formations of human speech, scattered in endless variety over all the villages, towns, countries, and continents of our globe. The radical elements of language are so extremely few, and the words which constitute the dialects of mankind so countless, that unless it had been possible to express the infinitesimal shades of human thought by the slightest differences in derivation or pronunciation, we should never understand how so colossal a fabric could have been reared from materials so scanty. Etymology is the knowledge of the changes of words, and so far from expecting identity, or even similarity of sound in the outward appearance of a word, as now used in English, and as used by the poets of the Veda, we should always be on our guard against any etymology which would fain make us believe that certain words

which exist in French existed in exactly the same form in Latin, or that certain Latin words could be discovered without the change of a single letter in Greek or Sanskrit. If there is any truth in the laws which govern the growth of language, we can lay it down with perfect certainty, that words of identically the same sound in English and in Sanskrit cannot be the same words. And this leads us to our third proposition. It does happen now and then that in languages, whether related to each other or not, certain words appear of identically the same sound and with some similarity of meaning. These words, which former etymologists seized upon as most confirmatory of their views, are now looked upon with well-founded mistrust. Attempts, for instance, continue to be made at comparing Hebrew words with the words of Aryan languages. If this is done with a clear perception of the immense distance which separates the Semitic from the Aryan languages, it can do no harm. But if instead of being satisfied with pointing out the faint coincidences in the lowest and most general elements of speech, scholars imagine they can discover isolated cases of minute coincidence amidst the general disparity in the grammar and dictionary of the Aryan and Semitic families of speech, their attempts become unscientific and reprehensible.

It is surprising, considering the immense number of words that might be formed by freely mixing the twenty-five letters of our alphabet, that in languages belonging to totally different families, the same ideas should sometimes be expressed by the same or very

similar words. Dr. Rae, in order to prove some kind of relationship between the Polynesian and Aryan languages, quotes the Tahitian *pura*, to blaze as a fire, the New Zealand *ka-pura*, fire, as similar to Greek *pyr*, fire. He compares Polynesian *ao*, sunrise, with *Eos*; Hawaian *mauna* with *mons*; Hawaian *ike*, he saw or knew, with Sanskrit îksh, to see; *manao*, I think, with Sanskrit man, to think; *noo*, I perceive, and *noo-noo*, wise, with Sanskrit *gñâ*, to know; *orero* or *orelo*, a continuous speech, with *oratio*; *kala*, I proclaim, with Greek *kaleîn*, to call; *kalanga*, continuous speech, with *harangue*; *kani* and *kakani*, to sing, with *cano*; *mele*, a chaunted poem, with *mélos*.[1]

It is easy to multiply instances of the same kind. Thus in the Kafir language to beat is *beta*, to tell is *tyelo*, hollow is *uholo*.[2]

In Modern Greek eye is *mati*, a corruption of *ommation*; in Polynesian eye is *mata*, and in Lithuanian *matau* is to see.

And what applies to languages which, in the usual sense of the word, are not related at all, such as Hebrew and English, or Hawaian and Greek, applies with equal force to cognate languages. Here, too, a perfect identity of sound between words of various dialects is always suspicious. No scholar would now-a-days venture to compare *to look* with Sanskrit lokayati; *to speed* with Greek *speúdō*; *to call* with Greek *kaleîn*; *to care* with Latin *cura*. The English

[1] See M. M., *Turanian Languages*, p. 95, *seq.* Pott, in *Deutsche Morgenländische Gesellschaft*, ix. 430, containing an elaborate criticism on M. M.'s *Turanian Languages*. The same author has collected some more accidental coincidences in his *Etymologische Forschungen*, ii. 430.

[2] Appleyard, *Kafir Language*, p. 3.

sound of *i* which in English expresses an *eye*, oculus, serves in German in the sense of *egg*, ovum; and it would not seem unreasonable to take both words as expressive of roundness, applied in the one case to an *egg*, in the other to an *eye*. The English *eye*, however, must be traced back to the Anglo-Saxon *éage*, Gothic *augô*, German *Auge*, words distantly akin to Sanskrit akshi, the Latin *oculus*, the Greek *ὄsse*; whereas the German *Ei*, which in Old High-German forms its plural *eigir*, is identical with the English *egg*, the Latin *ovum*, the Greek *ōFon*, and possibly connected with *avis*, bird. This Anglo-Saxon *êage*, eye, dwindles down to *y* in *daisy*, and to *ow* in *window*, supposing that *window* is the Old Norse *vindauga*, the Swedish *vindöga*, the Old English *windoge*, *windohe*, and *windowe*.[1] It is curious that in Gothic a window is called *augadaurô*, in Anglo-Saxon, *éagduru*, i. e. eye-door. In *island* (which ought to be spelt *iland*), the first portion is neither *egg* nor *eye*, but a derivative of the same word which we have in O.H.G. *aha*, in Gothic *ahwa*, in Latin *aqua*, water. From this, as Fick suggested, would have been formed a Gothic **agwjô*, watery, which dwindled down to **awjô* and **aujô*, and appears in O.H.G. as *ouwa*, waterland, in mediæval Latin as *augia*, in Modern German as *Aue*. In Old Norse the corresponding form occurs as *ey*, in Anglo-Saxon as *êg* and *ŷg*, and hence *êglond*, *îglond*, *iland*, and by mistake *island*.

What can be more tempting than to derive '*on*

[1] Grimm, *Deutsche Grammatik*, ii. pp. 193, 421.

the whole' from the Greek *kath hólon*, from which *Catholic*?[1] Buttmann, in his *Lexilogus*, has no misgivings whatever as to the identity of the Greek *hólos* and the English *hale* and *whole* and *wholesome*. At present, a mere reference to 'Grimm's Law' enables any tyro in etymology to reject this identification as impossible. First of all, *whole*, in the sense of sound, is really the same word as *hale*,[2] the former belonging to the North, the latter to the South. They both come from A.S. Now, an initial aspirate in Anglo-Saxon or Gothic presupposes a tenuis in Greek, and the *ai* in Gothic, and the *â* in Anglo-Saxon point to an original *ai*. Hence if the same word existed in Greek, it could only have been *koilos*, not *hólos*. In *hólos* the asper points to an original *s* in Sanskrit and Latin, and *hólos* has therefore been rightly identified with Sanskrit sarva and Latin *salvus* and *sollus*, in *sollers, sollemnis, solliferreus*, &c.

There is perhaps no etymology so generally acquiesced in as that which derives *God* from *good*. In Danish *good* is *god*, but the identity of sound between the English *God* and the Danish *god* is merely accidental; the two words are distinct, and are kept distinct in every dialect of the Teutonic family. As in English we have *God* and *good*, we have in Anglo-Saxon *God* and *gôd*; in Gothic *Guth* and *gôd-s*; in Old High-German, *Cot* and *cuot*; in German, *Gott* and *gut*; in Danish, *Gud* and *god*; in Dutch, *God* and *goed*. Though it is impossible to

[1] Pott, *Etymol. Forschungen*, i. 774, *seq.* 'Sollum Osce totum et solidum significat.'—Festus.

[2] Grimm, *Deutsche Grammatik*, i. pp. 389, 394.

give a satisfactory etymology of either *God* or *good*, it is clear that two words which thus run parallel in all these dialects without ever meeting, cannot be traced back to one central point. *God* was most likely an old heathen name of the Deity, and for such a name the supposed etymological meaning of *good* would be far too modern, too abstract, too Christian. In the Old Norse, *Goð* is actually found in the sense of a graven image, an idol, and is then used as a neuter, whereas, in the same language, *Guð*, as a masculine, means God. When, after their conversion to Christianity, the Teutonic races used *God* as the name of the true God, in the same manner as the Romanic nations retained their old heathen word *Deus*,[1] we find that in Old High-German a new word was formed for false gods or idols. They were called *apcot*, as if ex-gods. The Modern German word for idol, *Götze*, is, according to Grimm, a modified form of *God*,[2] and the compound *Oelgötze*, which is used in the same sense, seems actually to point back to ancient stone idols, before which, in the days of old, lamps were lighted and incense burned. Luther, in translating the passage of Deuteronomy, 'And ye shall hew down the graven images of their gods,' uses the expression, '*die Götzen ihrer Götter*.'

What thus happens in different dialects may

[1] In the language of the gipsies, *devel*, meaning God, is connected with Sanskrit d e v a. Kuhn, *Beiträge*, i. p. 147. Pott, *Die Zigeuner*, ii. p. 311.

[2] Grimm, *Deutsche Grammatik*, iii. p. 694. Others have derived *Götze* from *góz*, the modern German *Guss*, ein *Gussbild*, a cast or molten image, or *góz-opfer*, libation; but the transition from *gôz* to *Götze* has not been accounted for.

happen also in one and the same language; and this leads us to the consideration of our fourth and last proposition.

4. *Different Words may take the same Form in one and the same Language.*

The same causes which make words which are perfectly distinct in their origin to assume the same, or very nearly the same, sound in English and German, may produce a similar convergence between two words in one and the same language. Nay, the chances are, if we take into account the peculiarities of pronunciation and grammar in each dialect, that perfect identity of sound between two words, differing in origin, will occur more frequently in one and the same than in different dialects. It would seem to follow, also, that these cases of verbal convergence are more frequent in modern than in ancient languages; for it is only by a constant process of phonetic corruption, by a constant wearing off of the sharp edges of words, that this curious assimilation can be explained. Many words in Latin differ by their terminations only; these terminations were generally omitted in the modern Romanic dialects, and the result is, that these words are no longer distinguishable in sound. Thus *novus* in Latin means *new*; *novem*, *nine*; the terminations being dropped, both become in French *neuf*. *Suum*, *his*, is pronounced in French *son*; *sonus*, *sound*, is reduced to the same form. In the same manner *tuum*, *thine*, and *tonus*, *tone*, become *ton*. The French *feu*,

fire, is the Latin *focus*; *feu*, in the sense of late, is not exactly Latin—at least, it is derived from Latin in the most barbarous way. In the same manner as we find in Spanish *somos*, *sois*, *son*, where *sois* stands ungrammatically for Latin *estis*; as in the same language a gerund *siendo* is formed which would seem to point to a barbarous Latin form, *essendo*, so a past participle *fuitus* may have been derived from the Latin *fuere* or *fore*, to be, from which *fui*, *fuam*, *forem*, *futurus*, &c., and this may have given rise to the French *feu*, late. We find both *feu la reine* and *la feue reine*. Brachet, however, explains *feu* as *fatutus*, fated.

It sometimes happens that three Latin words are absorbed into one French sound. The sound of *mer* conveys in French three distinct meanings; it means sea, mother, and mayor. Suppose that French had never been written down, and had to be reduced to writing for the first time by missionaries sent to Paris from New Zealand, would not *mer*, in their dictionary of the French language, be put down with three distinct meanings, meanings having no more in common than the explanations given in some of our old Greek and Latin dictionaries? It is no doubt one of the advantages of the historical system of spelling that the French are able to distinguish between *la mer*, *mare*, *le maire*, *major*, *la mère*, *mater*; yet if these words produce no confusion in the course of a rapid conversation, they would hardly be more perplexing in reading, even though written phonetically.

There are instances where four and five words, all of Latin origin, have dwindled away into one French

term. *Ver*, the worm, is Latin *vermis*; *vers*, a verse, is Latin *versus*; *verre*, a glass, is Latin *vitrum*; *vert*, green, is Latin *viridis*; *vair*, fur, is Latin *varius*. Nor is there much difference in pronunciation between the French *mai*, the month of May, the Latin *majus*; *mais*, but, the Latin *magis*; *mes*, the plural of my, Latin *mei*; and *la maie*, a trough, the Latin *magis*, late Latin *magida*, the Greek *magís*, *magídos*, a kneading-trough; or between *sang*, blood, *sanguis*; *cent*, a hundred, *centum*; *sans*, without, *sine*; *sent*, he feels, *sentit*; *s'en*, in *il se'en va*, *inde*.

Wherever the spelling is the same, as it is, for instance, in *louer*, to praise, and *louer*, to let, attempts have not been wanting to show that the second meaning was derived from the first; that *louer*, for instance, was used in the sense of letting, because you have to praise your lodgings before you can let them. Thus *fin*, fine, was connected with *fin*, the end, because the end occasionally expresses the smallest point of an object. Now, in the first instance, both *louer*, to let, and *louer*, to praise, are derived from Latin; the one is *laudare*, the other *locare*. In the other instance we have to mark a second cause of verbal confusion in French. Two words, the one derived from a Latin, the other from a German source, met on the neutral soil of France, and, after being divested of their national dress, ceased to be distinguishable from each other.

There are cases, however, where French, Italian, and Spanish words, though apparently invested with two quite heterogeneous meanings, must nevertheless be referred to one and the same original. *Voler*, to fly, is

clearly the Latin *volare*; but *voler*, to steal, would seem at first sight to require a different etymology. There is, however, no simple word, whether in Latin, or Celtic, or Greek, or German, from which *voler*, to steal, could be derived. Now, as we observed that the same Latin word branched off into two distinct French words by a gradual change of pronunciation, we must here admit a similar bifurcation, brought on by a gradual change of meaning. It would not, of course, be satisfactory to have recourse to a mere gratuitous assumption, and to say that a thief was called *volator*, a flyer, because he flew away like a bird from his pursuers. But Professor Diez has shown that, in Old French, to steal is *embler*, which is the mediæval Latin *imbulare*, used, for instance, in the Lex Salica. This *imbulare* is the genuine Latin *involare*, which is used in Latin of birds flying down,[1] of men and women flying at each other in a rage,[2] of soldiers dashing upon an enemy,[3] and of thieves pouncing upon a thing not their own.[4] The same *involare* is used in Italian in the sense of stealing, and in the Florentine dialect it is pronounced *imbolare*, like the French *embler*. From *embler* we have *d'emblée*, suddenly. It was this *involare*, with the sense of seizing, which

[1] 'Neque enim debent (aves) ipsis nidis involare; ne, dum adsiliunt, pedibus ova confringant.'—Col. 8, 3, 5.

[2] 'Vix me contineo, quin involem in capillum, monstrum.'—Ter. *Eun.* 5, 2, 20.

[3] 'Adeoque improvisi castra involavere.'—Tac. *H.* 4, 33.

[4] 'Remitte pallium mihi meum quod involasti.'—Cat. 25, 6. These passages are taken from White and Riddle's *Latin-English Dictionary*, a work which deserves credit for the careful and thoughtful manner in which the meanings of each word are arranged and built up architecturally, story on story.

suggested the modern French *voler*, to steal. *Voler*, therefore, meant originally, not to fly away, but to fly upon, just as the Latin *impetus*, assault, is derived from the root pat, to fly, in Sanskrit, from which we derived *penna* and *feather*. A complete dictionary of words of this kind in French has been published by M. E. Zlatagorskoi, under the title, *Essai d'un Dictionnaire des Homonymes de la Langue française* (Leipzig, 1862), and a similar dictionary might be composed in English. For here, too, we find not only Romanic words differing in origin and becoming identical in form, but Saxon words likewise; nay, not unfrequently we meet with words of Saxon origin which have become outwardly identical with words of Romanic origin. For instance:—

I.	*to blow*	A.S. *blâwan*, the wind blows
	to blow	A.S. *blôwan*, the flower blows
	to cleave	A.S. *cleofian*, to stick
	to cleave	A.S. *clêofan*, to sunder
	a hawk	A.S. *heafoc*, a bird; German *Habicht*
	to hawk	to offer for sale; German *hökеn*
	to last	A.S. *gelæstan*, to endure
	last	A.S. *latost*, latest
	last	A.S. *hlæst*, burden
	last	A.S. *lâst*, mould for making shoes
	to lie	A.S. *licgan*, to repose
	to lie	A.S. *lêogan*, to speak untruth
	ear	A.S. *éare*, the ear; Lat. *auris*
	ear	A.S. *éar*, the ear of corn; Gothic *ahs*; German *Ähre*
II.	*count*	Latin *comes*
	to count	Latin *computare*
	to repair	Latin *reparare*
	to repair	Latin *repatriare*
	tense	Latin *tempus*

tense . . Latin *tensus*
vice . . Latin *vitium*
vice . . Latin *vice*

III. *corn* . . A.S. *corn*, in the fields
corn . . Latin *cornu*, on the feet
sage . . Latin *salvia*, French *sauge*, A.S. *salwiga*; German *salvey*, a plant
sage . . Latin *sapius*
to see . . A.S. *séon*
see . . . Latin *sedes*
scale . . A.S. *scalu*, of a balance
scale . . A.S. *scalu*, of a fish
scale . . Latin *scala*, steps
sound . . A.S. *gesund*, hale
sound . . A.S. *sund*, of the sea
sound . . Latin *sonus*, tone
sound . . Latin *subundare*, to dive.[1]

Although, as I said before, the number of these equivocal words will increase with the progress of phonetic corruption, yet they exist likewise in what we are accustomed to call ancient languages. There is not one of these languages so ancient as not to disclose to the eye of an accurate observer a distant past. In Latin, in Greek, and even in Sanskrit, phonetic corruption has been at work, smoothing the primitive asperity of language, and now and then producing exactly the same effects which we have just been watching in French and English. Thus, Latin *est* is not only the Sanskrit asti, the Greek *esti*, but it likewise stands for Latin *edit*, he eats. As *ist* in German has equally these two meanings, though they are

[1] Large numbers of similar words in Mätzner, *Englische Grammatik*, i. p. 187; Koch, *Historische Grammatik der Englischen Sprache*, i. p. 223.

kept distinct by a difference of spelling, elaborate attempts have been made to prove that the auxiliary verb was derived from a verb which originally meant to eat—eating being supposed to have been the most natural assertion of our existence.

The Greek *ἰός* means both arrow and poison; and here again attempts were made to derive either arrow from poison, or poison from arrow.[1] Though these two words occur in the most ancient Greek, they are nevertheless each of them secondary modifications of two originally distinct words. This can be seen by reference to Sanskrit, where arrow is ishu, whereas poison is visha, Latin *virus*. It is through the influence of two phonetic laws peculiar to the Greek language—the one allowing the dropping of a sibilant between two vowels, the other the elision of the initial *v*, the so-called digamma—that ishu and visha converged towards the Greek *ἰός*.

There are three roots in Sanskrit which in Greek assume one and the same form, and would be almost undistinguishable except for the light which is thrown upon them from cognate idioms. Nah, in Sanskrit, means to bind, to join together; snu, in Sanskrit, means to flow, or to swim; nas, in Sanskrit, means to come. These three roots assume in Greek one and the same form, *νέω*.

Νέω, fut. *νήσω* (the Sanskrit NAH), means to spin, originally to join together; it is the German *nähen*, (O.H.G. *nâan*), to sew, Latin, *nere*. Here we have only to observe in Greek the absence of the final *h*

[1] The coincidence of *τόξον*, a bow, and *τοξικόν*, poison for smearing arrows (hence *intoxication*), is curious.

in Sanskrit nah, which reappears, however, in the Greek verb *nḗthō*, I spin; and the former existence of which can be discovered in Latin also, where the *c* of *necto* points to the original guttural *h*.

SNU, snauti, to run, appears in Greek as *néō*. This *néō* stands for *sneFō*. *S* is elided as in *mikrós* for *smikrós*,[1] and the digamma disappears, as usual, between two vowels. It reappears, however, as soon as it stands no longer in this position. Hence fut. *neúsomai*, aor. *ḗneusa*. From this root, or rather from the still simpler and more primitive root nu, the Aryan languages derived their words for ship, originally the *swimmer*; Sanskrit naus, nâvas; Greek *naûs*, *nēós*; Latin *navis*. Secondary forms of nu or snu are the Sanskrit causative snâvayati, corresponding to the Latin *nare*, which grows again into *natare*. By the addition of a guttural we receive the Greek *nḗchō*, I swim, from which *nḗsōs*, an island, and *Náxos*, the island. The German *Nachen*, too, shows the same tendency to replace the final *v* by a guttural.

The third root is the Sanskrit nas, to come, the Vedic nasati. Here we have only to apply the Greek euphonic law, which necessitates the elision of an *s* between two vowels; and, as our former rule with regard to the digamma reduced *neFō* to *néō*, this will reduce the original *nésō* to the same *neō*. Again, as in our former instance, the removal of the cause removed the effect, the digamma reappearing whenever it was followed by a consonant, so in this instance the *s* rises again to the surface when it is followed by

[1] Cf. Mehlhorn, § 54. Also *σφάλλω*, fallo; *σφόγγος*, fungus. Festus mentions in Latin, smitto and mitto, stritavus and tritavus.

a consonant, as we see in *nóstos*, the return, from *né-esthai*.

And here, in discussing words which, though originally distinct in origin and meaning, have in the course of time become identical or nearly identical in sound, I ought not to pass over in silence the name of a scholar who, though best known in the annals of the physical sciences, deserves an honourable place in the history of the Science of Language also. Roger Bacon's views on language and etymology are strangely in advance of his age. He called etymology the tale of truth,[1] and he was probably the first who conceived the idea of a Comparative Grammar. He uses the strongest language against those who proposed derivations of words in Latin, Greek, and Hebrew without a due regard to the history of these languages. 'Brito,' he says, 'dares to derive *Gehenna* from the Greek *ge*, earth, and *ennos*, deep, though *Gehenna* is a Hebrew word, and cannot have its origin in Greek.'[2] As an instance of words becoming identical in the course of time, he quotes *kenon* as used in many mediæval compounds. In *cenotaph*, an empty tomb, *ceno* represents the Greek κενός, empty. In *cenobite*, one of a religious order living in a convent, *ceno* is the Greek κοινός, common. In *encenia*, festivals kept

[1] Roger Bacon, *Compendium Studii*, cap. 7 (ed. Brewer, p. 449): 'quoniam etymologia est sermo vel ratio veritatis.' Cicero rendered etymology by veriloquium.

[2] *L. c.* cap. 7, p. 450: 'Brito quidem indignissimus auctoritate, [illegible]luries redit in vitium de quo reprehendit Hugutionem et Papiam. O[illegible]n cum dicit quod *Gehenna* dicitur a *ge*, quod est terra, et *ennos*, [illegible]est profundum, Hebræum vocabulum docet oriri ex Græco; quia [illegible]erra est Græcum, et *gehenna* est Hebræum.'

in commemoration of the foundation of churches, &c., *cenia* answers to the Greek καινός, new, these festivals being intended as renewals of the memory of pious founders.[1] Surely this does honour to the thirteenth century!

If, then, we have established that sound etymology has nothing to do with sound, what other method is to be followed in order to prove the derivation of a word to be true and trustworthy? Our answer is, We must discover the laws which regulate the changes of letters. If it were by mere accident that the ancient word for *tear*, derived from the root a s, to be sharp, or d a s, to bite, took the form a s r u in Sanskrit, *àszara* in Lithuanian, *dákry* in Greek, l a c r u m a in Sanskrit, *tagr* in Gothic, a scientific treatment of etymology would be an impossibility. But this is not the case. In spite of the apparent dissimilarity of the words for *tear* in English and French, there is not an inch of ground between these two extremes, *tear* and *larme*, that cannot be bridged over by Comparative Philology. We believe therefore, until the contrary has

[1] *L. c.* cap. 7, p. 457: 'Similiter multa falsa dicuntur cum istis nominibus, *cenobium*, *cenodoxia*, *encenia*, *cinomia*, *scenophagia*, et hujusmodi similia. Et est error in simplicibus et compositis, et ignorantia horribilis. Propter quod diligenter considerandum est quod multa istorum dicuntur a κενῷ Græco, sed non omnia. Et sciendum quod *cenon*, apud nos prolatum uno modo, scribitur apud Græcos tribus modis. Primo per *e* breve, sicut *kenon*, et sic est inane seu vacuum, a quo *cenodoxia*, quæ est vana gloria. . . . Secundo modo scribitur per diphthongum ex alpha et iota, sicut *kainon*, et tunc idem est quod novum; unde *encænia*, quod est innovatio vel dedicatio, vel nova festa et dedicationes ecclesiarum. . . . Tertio modo scribitur per diphthongum ex omicron et iota, sicut *koinos*. . . . Unde dicunt *cenon*, a quo *epi num*, communis generis. . . . Item a *cenon*, quod est commune, et estus quod est vita, dicitur *cenobium*, et *cenobitæ*, quasi communiter viv

been proved, that there is law and order in the growth of language, as in the growth of any other production of nature, and that the changes which we observe in the history of human speech are not the result of chance, but are constrained by general and ascertainable laws.

CHAPTER VII.

THE ELEMENTS OF LANGUAGE.

True meaning of Elements.

WE saw in a former chapter how, if we dissolve words into their most primitive elements, we arrive, not at letters, but at roots. Elements must be substances which, if combined, are sufficient to account for things as they really are. But it is quite clear that we might shake our letters together *ad infinitum* and yet never arrive at real words.

It was a favourite idea of ancient philosophers to compare the atoms of nature with letters. Epicurus is reported to have said that 'the atoms come together in different order and position, like the letters which, though they are few, yet, by being shaken together in different ways, produce innumerable words.' [1]

Aristotle, also, in his *Metaphysics*, when speaking of Leucippus and Democritus, illustrates the different effects produced by the same elements by a reference to letters. 'A,' he says, 'differs from N by its shape; AN from NA by the order of the letters; Z from N by its position.' [2]

[1] Lactantius, *Divin. Inst.* lib. 3, c. 19: 'Vario, inquit (Epicurus), ordine ac positione conveniunt atomi sicut literæ, quæ cum sint paucæ, varie tamen collocatæ innumerabilia verba conficiunt.'

[2] *Metaph.* i. 4, 11: Διαφέρει γὰρ τὸ μὲν Α τοῦ Ν σχήματι, τὸ δὲ ΑΝ τοῦ ΝΑ τάξει, τὸ δὲ Ζ τοῦ Ν θέσει.

It is true, no doubt, that by putting the twenty-three or twenty-four letters together in every possible variety, we might produce every word that has ever been used in any language of the world. The number of these words, taking twenty-three letters as the basis, would be 25,852,016,738,884,976,640,000; or, if we take twenty-four letters, 620,448,401,733,239,439,360,000.[1] But even then these millions, billions, and trillions of sounds would not be words, for they would lack the most important ingredient, that which makes a word to be a word, namely, the different ideas which give life to them, and which are expressed differently in different languages.

Element (Aristotle says) we call that of which anything consists, as of its first substance, this being as to form indivisible; as, for instance, the elements of language (the letters) of which language is composed, and into which as its last component parts, it can be dissolved; while they, the letters, can no longer be dissolved into sounds different in form; but if they are dissolved, the parts are homogeneous, as a part of water is water; but not so the parts of a syllable.[2]

If here we take *phōnḗ* as voice, not as language, there would be nothing to object to in Aristotle's reasoning. The voice, as such, may be dissolved into

[1] Cf. Leibniz, *De Arte combinatoria*, *Opp.* t. ii. pp. 387–8, ed. Dutens; Pott, *Etym. Forsch.* ii. p. 9. Plutarch, *Symposiacæ quæstiones*, viii. 9, 3: Ξενοκράτης δὲ τὸν τῶν συλλαβῶν ἀριθμὸν, ὃν τὰ στοιχεῖα μιγνύμενα πρὸς ἄλληλα πάρεχει, μυριάδων ἀπέφηνεν εἰκοσάκις καὶ μυριάκις μυρίων. Xenocrates was the pupil of Plato, and for twenty-five years president of the Academy. See First Volume, p. 377.

[2] Metaph. iv. 3: στοιχεῖον λέγεται ἐξ οὗ σύγκειται πρώτου ἐνυπάρχοντος, ἀδιαιρέτου τῷ εἴδει [εἰς ἕτερον εἶδος], οἷον φωνῆς στοιχεῖα ἐξ ὧν σύγκειται ἡ φωνὴ καὶ εἰς ἃ διαιρεῖται ἔσχατα, ἐκεῖνα δὲ μηκέτ' εἰς ἄλλας φωνὰς ἑτέρας τῷ εἴδει αὐτῶν· ἀλλὰ κἂν διαιρῆται, τὰ μόρια ὁμοειδῆ, οἷον ὕδατος τὸ μόριον ὕδωρ, ἀλλ' οὐ τῆς συλλαβῆς.

vowels and consonants, as its primal elements. But not so speech. Speech is pre-eminently significant sound, and if we look for the elements of speech, we cannot on a sudden drop one of its two characteristic qualities, either its audibility or its significancy. Now letters as such are not significant; *a*, *b*, *c*, *d*, mean nothing, either by themselves or if put together. The only word that is formed of mere letters is 'Alphabet' (*ὁ ἀλφάβητος*), the English ABC; but even here it is not the sounds, but the names of the letters, that form the word. One other word has been supposed to have the same merely alphabetical origin, namely, the Latin *elementum*. As *elementa* is used in Latin for the ABC, it has been supposed, though I doubt whether in real earnest, that it was formed from the three letters, *l*, *m*, *n*.

Etymology of Stoicheion.

The etymological meaning of *elementa* is by no means clear, nor has the Greek *stoicheĩon*, which in Latin is rendered by *elementum*, as yet been satisfactorily explained. We are told that *stoicheĩon* is a diminutive form of *stoĩchos*, a small upright rod or post, especially the gnomon of the sundial, or the shadow thrown by it; and under *stoĩchos* we find the meaning of a row, a line of poles with hunting nets, and are informed that the word is the same as *stíchos*, line, and *stóchos*, aim. How the radical vowel can change from *i* to *o*, and *oi*, is not explained.

The question is, why were the elements, or the component primary parts of things, called *stoicheĩa* by the Greeks? It is a word which has had a long history,

and has passed from Greece to almost every part of the civilised world, and deserves, therefore, some attention at the hand of the etymological genealogist. *Stoĩchos*, from which *stoicheĩon*, means a row or file, like *stíx* and *stíches* in Homer. The suffix *eios* is the same as the Latin *eius*, and expresses what belongs to or has the quality of something. Therefore, as *stoĩchos* means a row, *stoicheĩon* would be what belongs to or constitutes a row. It is not possible to connect these words with *stóchos*, aim, either in form or meaning. Roots with *i* are liable to a regular change of *i* into *oi* or *ei*, but not into *o*. Thus the root *lip*, which appears in *élipon*, assumes the forms *leípo* and *léloipa*, and the same scale of vowel-changes may be observed in

liph, *aleíphō*, *éloipha*, and
pith, *peíthō*, *pépoitha*.

Hence *stoĩchos* presupposes a root *stich*, and this root would account in Greek for the following derivations:—

1, *stíx*, gen. *stichós*, a row, a line of soldiers.

2, *stíchos*, a row, a line; *distich*, a couplet.

3, *steíchō*, *éstichon*, to march in order, step by step; to mount.

4, *stoĩchos*, a row, a file; *stoicheĩn*, to march in a line.

In German, the same root yields *steigen*, to step, to mount; in Gothic, *steigan*; and in Sanskrit we find stigh, to mount.

Quite a different root is presupposed by *stóchos*. As *tómos* points to a root *tam* (*témno*, *étamon*), or *bólos* to a root *bal* (*bélos*, *ébalon*), *stóchos* points to a

root *stach*. This root does not exist in Greek in the form of a verb, and has left behind in the classical language this one formation only, *stóchos*, mark, point, aim, whence *stocházomai*, I point, I aim, and similar derivatives. In Gothic, a similar root exists in the verb *stiggan* or *staggan*,[1] the English *to sting*.

A third root, closely allied with, yet distinct from, *stach*, has been more prolific in the classical languages, namely, *stig*, to stick.[2] From it we have *stizō*, *éstigmai*, I prick; in Latin, *in-stîgare*, *stĭmulus*, and *stĭlus* (for *stiglus*, like *palus* for *paglus*); Gothic, *stikan*, intrans. to stick, and *stik-s*, a point.

The result at which we thus arrive is that *stoicheĩon* has no connection with *stóchos*; and hence that it cannot, as the dictionaries tell us, have started from the primary meaning of a small upright rod or pole stuck in the ground, or of the gnomon of the sundial. Where *stoicheĩon* (as in δεκάπουν στοιχεῖον i.e. noon) is used with reference to the sundial, it means the lines of the shadow following each other in regular succession; the radii, in fact, which constitute the complete series of hours described by the sun's daily course. And this gives us the key to *stoicheĩon*, in the sense of elements. *Stoicheĩa* are the degrees or steps from one end to the other, the constituent parts of a whole, forming a complete series, whether as hours, or letters, or numbers, or parts of speech, or physical elements, provided always that such elements are held together by a sys-

[1] See Ulfilas, *Matth.* v. 29.

[2] Grimm, *Deutsche Sprache*, p. 853; Goth. *stiggan*, *stagg*; O.H.G. *stingan*; A.S. *stingan*, *stang*, *stungon*. Goth. *stikan*, *stak*, *stĕkum*; O.H.G. *stëchan*, *stah*, *stâchum*; A.S. *stican*.

tematic order. This is the only sense in which Aristotle and his predecessors could have used the word for ordinary and for technical purposes; and it corresponds with the explanation proposed by no less an authority than Dionysius Thrax. The first grammarian of Greece gives the following etymology of *stoicheĩa* in the sense of letters (§ 7):[1]—'The same are also called *stoicheĩa*, because they have a certain order and arrangement.'[2]

Etymology of Elementum.

Why the Romans, who probably became for the first time acquainted with the idea of elements through their intercourse with Greek philosophers and grammarians, should have translated *stoicheĩa* by *elementa* is less clear. In the sense of physical elements, the early Greek philosophers used *rizṓmata*, roots, in preference to *stoicheĩa*, and whether *elementa* stands for *alimenta*, in the sense of feeders, or for *olementa*, in the sense of sources of growth (cf. adolere, sub-oles, &c.),[3] it may have been intended originally as a rendering of *rizṓmata*.

[1] Τὰ δὲ αὐτὰ καὶ στοιχεῖα καλεῖται διὰ τὸ ἔχειν στοῖχόν τινα καὶ τάξιν.

[2] The explanation here suggested of *stoicheĩon* is confirmed by some remarks of Professor Pott, in the second volume of his *Etymologische Forschungen*, p. 191, 1861. The same author suggests a derivation of *elementum* from *lî*, solvere, with the proposition ê.—*l. c.* p. 193.

[3] Corssen, *Aussprache*, 2nd ed. i. p. 531. Leo Meyer, in Bezzenberger's *Beiträge*, ii. p. 86. From the root AL, meaning intransitively to grow, transitively to make grow, to nourish, we have in Latin *alo*, to nourish; *alumnus*, nourished, nursling; *almus*, nourishing, genial; *alimentum*, *co-alescere*, *ad-olescere*, *sub-olescere*, *proles*, *altus*, *adultus*, &c. In *elementum* the vowels are irregular, but find some analogy in *bene* and *bonus*, *velim* and *volo*.

Roots as ultimate Facts.

From an historical point of view, letters can never be considered as the *stoicheîa* or *rizómata* of language. There may be roots consisting of one vowel, such as *i*, to go, in Sanskrit, or *'i*, one, in Chinese; but this would only show that a root may be a letter, not that a letter may be a root. If we attempted to divide roots like Sanskrit *ki*, to collect, or the Chinese *tchi*, many, into *tch* and *i*, we should have left the precincts of language, and entered upon the science of phonetics.

In the science of language we must accept roots simply as ultimate facts, leaving to the physiologist and the psychologist the question as to the possible sympathetic or reflective action of the five organs of sensuous perception upon the motory nerves of the organs of speech. It was for that reason that I chose a negative rather than a positive definition of roots, stating[1] that, for my own immediate purposes, I called root or radical whatever, in the words of any language or family of languages, cannot be reduced to a simpler or more original form.

Conception of Root in India.

It has been pointed out, however, with great logical acuteness, that if this definition were true, roots would be mere abstractions, and as such unfit to explain the realities of language. Now, it is perfectly true that, from one point of view, a root may be considered as a mere abstraction. A root is a cause, and every

[1] Vol. i. p. 358.

cause, in the logical acceptation of the word, is an abstraction. As a cause it can claim no reality, no vulgar reality—if we call real that only which can become the object of sensuous perception. In real language, we never hear a root; we only meet with their effects, namely, with words, whether nouns, adjectives, verbs, or particles. This is the view which the native grammarians of India have taken of Sanskrit roots; and they have taken the greatest pains to show that a root, as such, can never emerge to the surface of real speech; that there it is always a word, an effect, a substance clothed in the garment of grammatical derivatives. The Hindus call a root dhâtu, which is derived from the root dhâ,[1] to support or nourish. They apply the same word to their five elements, which shows that, like the Greeks, they looked upon these elements (earth, water, fire, air, ether), and upon the elements of language, as the supporters and feeders of real things and real words. It is known that, in the fourth century B.C., the Hindus possessed complete lists, not only of their roots, but likewise of all the formative elements, which, by being attached to them, raise the roots into real words.

Thus from a root vid, to know, they would form by means of the suffix ghañ,[2] Veda, i.e. knowledge; by means of the suffix *trik*, vett*ri*, a knower, Greek *hístōr* and *'istor*. Again, by affixing to the root cer-

[1] Unâdi Sûtras, i. 70: dudhâñ dhâranaposhanayoḥ.

[2] In ghañ and *trik*, the letters gh, ñ, and *k* are technical, and indicate certain changes that must take place when a and *tri* are added to a root.

tain verbal derivatives, they would arrive at vedmi, I know, viveda, I have known, or veda, I know. Besides these derivatives, however, we likewise find in Sanskrit the mere vid, used, particularly in compounds, in the sense of knowing; for instance, dharma-vid, a knower of the law. Here then the root itself might seem to appear as a word. But such is the logical consistency of Sanskrit grammarians, that they have actually imagined a class of derivative suffixes, the object of which is to be added to a root for the sole purpose of being rejected again. Thus only could the logical conscience of Pân*i*ni be satisfied.[1] When we should say that a root is used as a noun without any change except those that are necessitated by phonetic laws (as, for instance, dharmavit, instead of dharmavid), Pân*i*ni says (iii. 3, 68), that a suffix (namely, vi*t*) is added to the root vid. But if we come to inquire what this suffix means, and why it is called vi*t*, we find (vi. 1, 67) that a lopa, i.e. a lopping off, is to carry away the v of vi*t*; that the final *t* is only meant to indicate certain phonetic changes that take place if a root ends in a nasal (vi. 4, 41); and that the vowel i serves merely to connect these two algebraic symbols. So that the suffix vi*t* is in reality nought. This is certainly strict logic, but it is rather cumbersome gram-

[1] In earlier works the meaning of dhâtu is not yet so strictly defined. In the Prâtiśâkhya of the Rigveda, xii. 5, a noun is defined as that which signifies a being, a verb as that which signifies being, and as such the verb is identified with the root (Tan nâma yenâbhidadhâti sattvam, tad âkhyâtam yena bhâvam, sa dhâtuḥ). In the Nirukta, too, verbs with different verbal terminations are spoken of as dhâtus. Nighan*t*u, i. 20.

mar, and, from an historical point of view, we are justified in dropping these circumlocutions, and looking upon the root as outwardly identical with a real word.

Different views of the Nature of Roots.

With us, speaking inflectional and highly refined languages, roots are primarily what remains as the last residuum after a complete analysis of our own dialects, or of all the dialects that form together the great Aryan mass of speech. But if our analysis is properly made, what is to us a mere residuum must originally, in the natural course of events, have been a real germ; and these germinal forms would have answered every purpose in an early stage of language. We must not forget that there are languages which have remained in that germinal state, and in which there is to the present day no *outward* distinction between a root and a word. In Chinese,[1] for instance, *ly* means to plough, a plough, and an ox, i.e. a plougher; *ta* means to be great, greatness, greatly. Whether a word is intended as a noun, or a verb, or a particle, depends chiefly on the position which it occupies in a sentence. In the Polynesian[2] dialects, almost every verb may, without any change of form, be used as a noun or an adjective. Whether it is meant for the one or the other must be learnt from certain particles, which are called particles of affirmation (kua), and the particles of the agent (ko). In Egyptian, as Bunsen states, there is no formal distinction between noun, verb, adjective, and particle, and

[1] Endlicher, *Chinesische Grammatik*, § 123.
[2] Cf. Hale, *l. c.* p. 263.

a word like *an'h* might mean life, to live, living, lively.[1] What does this show? I think it shows that there was a stage in the growth of language, in which that sharp distinction which we make between the different parts of speech had not yet been fixed, and when even that fundamental distinction between subject and predicate, on which all the parts of speech are based, had not yet been realised in its fulness, and had not yet received a corresponding outward expression.

A slightly different view is propounded by Professor Pott, when he says: 'Roots, it should be observed, as such, lack the stamp of words, and therefore their real value in the currency of speech. There is no inward necessity why they should first have entered into the reality of language, naked and formless; it suffices, that, unpronounced, they fluttered before the soul like small images, continually clothed in the mouth, now with this, now with that form, and surrendered to the air to be drafted off in hundred-fold cases and combinations.'[2]

It might be said, that in Chinese, as soon as a root is pronounced—as soon as it forms part of a sentence—it ceases to be a root, and is either a subject or a predicate, or, to use grammatical language, a noun or a verb. Yet a Chinese would hardly understand this distinction. To him, the sound *ta*, even when pronounced, is a mere root; it is neither noun nor verb, distinctions which, in the form in which we conceive them, have no existence at all to a Chinese. If to *ta*

[1] Bunsen's *Aegypten*, i. 324.
[2] *Etymologische Forschungen*, ii. 95.

we add *fu*, man, and when we put *fu* first and *ta* last, then, no doubt, *fu* is the subject, and *ta* the predicate, or, as our grammarians would say, *fu* is a noun, and *ta* a verb; *fu ta* would mean, 'the man is great.' But if we said *ta fu*, *ta* would be an adjective, and the phrase would mean 'a great man.' There is in Chinese no real distinction between *ta*, potentially a noun, an adjective, a verb, an adverb, and *ta* in *fu ta*, used actually as an adjective or verb.

As the growth of language and the growth of the mind are only two aspects of the same process, it is difficult for us to think in Chinese, or in any radical language, without transferring to it our own categories of thought. But if we watch the language of a child, which is in reality Chinese spoken in English, we see that there is a form of thought, and of language, perfectly rational and intelligible to those who have studied it, in which, nevertheless, the distinction between noun and verb, nay, between subject and predicate, is not yet realised. If a child says *Up*, that *up* is, to his mind, noun, verb, adjective, all in one. It means, 'I want to get up on my mother's lap.' If an English child says *ta*, that *ta* is both a noun, thanks, and a verb, I thank you. Nay, even if a child learns to speak grammatically, it does not yet think grammatically; it seems, in speaking, to wear the garments of its parents, though it has not yet grown into them. A child says 'I am hungry,' without an idea that *I* is different from *hungry*, and that both are united by an auxiliary verb, which auxiliary verb again was a compound of a root as, and a personal termination mi, giving us the Sanskrit asmi,

I am. A Chinese child would express exactly the same idea by one word, *shi*, to eat, or food, &c. The only difference would be that a Chinese child speaks the language of a child, an English child the language of a man. If then it is admitted that every inflectional language passed through a radical and an agglutinative stage, it seems to follow that, at one time or other, the constituent elements of inflectional languages, namely, the roots, were to all intents and purposes, real words, and used as such both in thought and speech.

Roots, therefore, are not such mere abstractions as they are sometimes supposed to be, and unless we succeed in tracing each word in English, or in any inflectional language back to its root, we have not traced it back to its real origin. It is in this analysis of language that comparative philology has achieved its greatest triumphs, and has curbed that wild spirit of etymology which would handle words as if they had no past, no history, no origin. In tracing words back to their roots we must obey certain phonetic laws. If the vowel of a root is *i* or *u*, its derivatives will be different, from Sanskrit down to English, from what they would have been if that radical vowel had been *a*. If a root begins with a tenuis in Sanskrit, that tenuis, we know, will never be a tenuis in Gothic, but an aspirate; if a root begins with an aspirate in Sanskrit, that aspirate will never be an aspirate in Gothic, but a media; if a root begins with a media in Sanskrit, that media will not be a media in Gothic, but a tenuis.

Bow-wow and Pooh-pooh Theories.

And this, better than anything else, will, I think, explain the strong objection which comparative philologists feel to what I called the Bow-wow and the Pooh-pooh theories, names which I am sorry to see have given great offence, but in framing which, I can honestly say, I thought of Epicurus[1] rather than of living writers, and meant no offence to either. 'Onomatopœic' is neither an appropriate nor a pleasant word, and it was absolutely necessary to distinguish between two theories, the *onomatopœic*, which derives words from the sounds of animals and nature in general, as imitated by the framers of language, and the *interjectional*, which derives words not from the imitation of the interjections of others, but from the interjections themselves as wrung forth, almost against their will, from the framers of language. According to the former view, the origin of language was the result of a conscious act; according to the latter, of an involuntary instinct. I did not think that the weapons of ridicule were necessary to combat theories which, since the days of Epicurus, had so often been combated, and so often been defended. I may have erred in choosing terms which, while they expressed exactly what I wished to express, sounded rather homely and undignified; but I could not plead for the terms I had chosen a better excuse than the name now suggested by the sup-

[1] Ὁ γὰρ Ἐπίκουρος ἔλεγεν ὅτι οὐχὶ ἐπιστημόνως οὗτοι ἔθεντο τὰ ὀνόματα, ἀλλὰ φυσικῶς κινούμενοι, ὡς οἱ βήσσοντες καὶ πταίροντες καὶ μυκώμενοι καὶ ὑλακτοῦντες καὶ στενάζοντες.—*Proclus, ad Plat. Crat.* p. 9.

porters of the onomatopœic theory, which, I am told, is to be *Imsonic*, from *im* instead of *imitation*, and *son* instead of *sonus*, sound.[1]

That there is some analogy between the faculty of speech and the sounds which we utter in singing, laughing, crying, sobbing, sighing, moaning, screaming, whistling, and clicking, was known to Epicurus of old, and requires no proof. But does it require to be pointed out that even if the scream of a man who has his finger pinched should happen to be identically the same as the French *hélas*, that scream would be an effect, an involuntary effect of outward pressure, whereas an interjection like *alas*, *hélas*, Italian *lasso*, to say nothing of such words as *pain*, *suffering*, *agony*, &c., is there by the free will of the speaker, meant for something, used with a purpose, chosen as a sign?

Again, that sounds can be rendered in language by sounds, and that each language possesses a large stock of words imitating the sounds given out by certain

[1] Another name proposed in order to avoid the vague term *onomatopœic*, is *pathognomic*. I subjoin an explanation of the term as given in Steinthal's *Zeitschrift für Völkerpsychologie*, i. p. 420: 'We call it the *pathognomic principle*, in order to avoid the word *onomatopœic*, with which, not only through Plato and the Stoics, so many misunderstandings are connected. In order to understand the principle rightly, we must remove not only every intention, every consciousness in the formation of words; but it should not be overlooked that the word is never an image, nor an imitation of the thing, nor of its representation. The likeness of word and meaning consists only in this—that the *Gefühlston* (tone used metaphorically, as we speak of tone of colour), which the intuition of a thing calls forth in us, is about the same as that which is excited by the *Sprachlaut* (Lazarus, *Leben der Seele*, ii. p. 93; *Zeitschrift für Philos. u. phil. Kritik*, Bd. 32, p. 212); for this tone, this temper of the mind, as excited by sensation or perception, may be what is alone effective in this reflex on the motory nerves.'

things, who would deny? And who would deny that some words, originally expressive of sound only, might be transferred to other things which have some analogy with sound?

But how are all things that do not appeal to the sense of hearing—how are the ideas of going, moving, standing, sinking, tasting, thinking, to be expressed?

I give the following as a specimen of what may be achieved by the advocates of 'painting in sound.' *Hooiaioai* is said in Hawaian to mean to testify; and this, we are told, was the origin of the word:[1]—

In uttering the *i* the breath is compressed into the smallest and seemingly swiftest current possible. It represents therefore a swift, and what we may call a sharp movement.

Of all the vowels *o* is that of which the sound goes farthest. We have it therefore in most words relating to distance, as in *holo, lo*, long, &c.

In joining the two, the sense is modified by their position. If we write *oi*, it is an *o* going on with an *i*. This is exemplified in *oi*, lame. Observe how a lame man advances. Standing on the sound limb, he puts the lame one leisurely out and sets it to the ground: this is the *o*. But no sooner does it get there, and the weight of the body begin to rest on it, than, hastening to relieve it of the burden, he moves the other leg rapidly forward, lessening the pressure at the same time by relaxing every joint he can bend, and thus letting his body sink as far as possible; this rapid sinking movement is the *i*.

Again, *oi*, a passing in advance, excellency. Here *o* is the general advance, *i* is the going ahead of some particular one.

If, again, we write *io*, it is an *i* going on with an *o*. That is to say, it is a rapid and penetrating movement—*i*, and that movement long continued. Thus we have in Hawaian *io*, a chief's forerunner. He would be a man rapid in his course—*i*; of good bottom—*o*. In Greek, *ios*, an arrow, and *Io*, the

[1] *The Polynesian*. Honolulu, 1862.

goddess who went so fast and far. Hence *io* is anything that goes quite through, that is *thorough*, complete, real, true. Like Burns, 'facts are chiels that winna ding,' that is, cannot be forced out of their course. Hence *io*, flesh, real food, in distinction to bone, &c., and reality or fact, or truth generally.

Ia is the pronoun that, analogous to Latin *is, ea, id.* Putting together these we have *o, ia, io*—'oh that is fact.' Prefixing the causative *hoo*, we have 'make that to be fact;' affix *ai*, completive of the action, and we have, 'make that completely out to be a fact,' that is, 'testify to its truth.'

It is to be remarked that the stress of the voice is laid on the second *i*, the *oia* being pronounced very lightly, and that in Greek the *i* in *oiomai*, I believe, is always strongly accented, a mark of the contraction the word has suffered.

Although the languages of Europe, with their well-established history, lend themselves less easily to such hallucinations, yet I could quote similar passages from French, German, and English etymologists. Dr. Bolza, in his Vocabolario Genetico-Etimologico (Vienna, 1852), tells us, among other things, that in Italian *a* expresses light, *o* redness, *u* darkness; and he continues, '*Ecco probabilmente le tre note, che in fiamma, fuoco, e fumo, sono espresse dal mutamento della vocale, mentre la f esprime in tutti i tre il movimento dell' aria*' (p. 61, note). And again we are told by him that one of the first sounds pronounced by children is *m*: hence *mamma*. The root of this is *ma* or *am*, which gives us *amare*, to love. On account of the movement of the lips, it likewise supplies the root of *mangiare* and *masticare*; and explains besides *muto*, dumb, *muggire*, to low, *miagolare*, to mew, and *mormorio*, murmur. Now, even if *amare* could not be protected by the Sanskrit root am, to rush forward impetuously, we should have thought that *mangiare*

and *masticare* would have been safe against onomatopœic interference, the former being the Latin *manducare*, to chew, the latter the post-classical *masticare*, to chew. *Manducare* has a long history of its own. It descends from *mandere*, to chew, and *mandere* leads us back to the Sanskrit root mard, to grind, one of the numerous offshoots of the root mar, the history of which will be fully discussed in Chapter VIII. *Mûtus* has been well derived by Professor A. Weber (Kuhn's *Zeitschrift*, vi. p. 318) from the Sanskrit mû, to bind (Pân. vi. 4, 20), so that its original meaning would have been 'tongue-bound.' As to *miagolare*, to mew, we willingly hand it over to the onomatopœic school.

The onomatopœic theory goes very smoothly as long as it deals with cackling hens and quacking ducks; but round that poultry-yard there is a high wall, and we soon find that it is behind that wall that language really begins.

Many names even of animals, however, particularly in languages which have not yet been analysed scientifically, have been explained as onomatopœic, which a more intimate acquaintance with the language clearly proves to be appellative. As a warning in that respect I may quote the remarks of Mr. J. Hammond Trumbull, in the *Proceedings of the American Oriental Society*, 1868, p. xiii.:—

In Dr. Wilson's 'Prehistoric Man' (2nd ed. p. 56) is given a list of twenty-six names of animals which he regards as of onomatopoetic origin, and as illustrating the fact that 'primitives originating directly from the observation of natural sounds are not uncommon among the native root-words of the New

World.' This list has been used by Mr. Farrar (*Chapters on Language*, pp. 24–5) in support of his averment that, in savage vocabularies, 'almost every name for an animal is a striking and obvious onomatopœia.'

Considering our imperfect comprehension of the Algonkin dialects, we could not be expected to refute every assumed and doubtful onomatopœia by a true etymology. Of a part of the words in the list, it can only be said that their origin is not *primâ facie* mimetic. Respecting others, the fact can be proved. Thus *koo-koosh*, 'sow,' is demonstrably derived, by an adaptation of the name for 'porcupine,' from a root signifying 'sharp,' and it designates 'a bad bristly or prickly animal.' As to *pe-zhew*, 'wild cat,' forms of which are widely distributed, and used to denote various of the feline animals, there is a bare possibility that it may be imitative, but no more. These are the only names of quadrupeds in the list. Of the nineteen names of birds, four or five are presumably mimetic (including those of the owl and crow), six or seven possibly so, and the rest obviously derivative and significant. *Shi-sheeb*, 'duck,' like *duck* itself, comes from a root signifying 'dive.' *Pau-pau-say*, 'the common spotted woodpecker,' means 'a *spotted* bird.' *Moosh-kah-oos*, 'bittern,' denotes a frequenter of marshes. *No-no-caus-ee*, 'humming-bird'—a strange enough onomatopœia!—means 'the exceedingly delicate creature.' Of the asserted mimetic names for 'frog,' one signifies 'diver,' and the other, as it belongs also to the toad, is not likely to be truly imitative. And so on. If only one-fourth of a list carefully gleaned from three dialects can be fairly set down as onomatopœic, how much less is likely to be the proportion of such names to the whole vocabulary of any one tribe?

Most Algonkin names of animals are descriptive derivatives, and the few apparent exceptions belong to species which are more often heard than seen, while it is doubtful if any name of a quadruped is purely mimetic. Attention should also be paid to certain curious features of Indian nomenclature, especially to the combination of a generic characteristic with specific names; as, for example, certain swimming animals have a common suffix of derivation coming from a root that means 'put the head above water'; others, one that means 'bite';

others, 'scratch' or 'tear'; of plants, some are thus marked as to be eaten green, as nut-bearing, as having eatable roots, and so on. Such a suffix, in the Chippeway and allied tongues, is *gun*, the formative of the instrumentive participial; the occurrence of which at the end of the name for 'shooting-instrument' has misled Mr. Farrar into affirming (p. 34) that 'in some cases the onomatopœic instinct is so strong that it asserts itself side by side with the adoption of a name from a foreign language.'

But whatever we may think of these onomatopœic and interjectional theories, we must carefully distinguish between two things. There is one class of scholars who derive all words from roots according to the strictest rules of comparative grammar, but who look upon the roots, in their original character, as either interjectional or onomatopœic. There are others who derive words straight from interjections and the cries of animals, and who claim in their etymologies all the liberty the cow claims in saying *booh*, *mooh*, or *ooh*, or that man claims in saying *pooh*, *fi*, *pfui*.[1] With regard to the former theory, I should wish to remain entirely neutral, satisfied with considering roots as phonetic types, and patiently waiting till some progress has been made in tracing the principal roots, not of Sanskrit only, but of Chinese, Bask, the Turanian, and Semitic languages, back to the cries of man or the imitated sounds of nature.

Quite distinct from this is that other theory which, without the intervention of determinate roots, derives

[1] On the uncertainty of rendering inarticulate by articulate sounds, see Marsh (4th ed.), p. 36; Sir John Stoddart's *Glossology*, p. 231; *Mélanges asiatiques* (St. Petersbourg), iv. 1.

our words directly from cries and interjections. This theory would undo all the work that has been done by Bopp, Humboldt, Grimm, and others, during the last fifty years; it would with one stroke abolish all the phonetic laws that have been established with so much care and industry, and throw etymology back into a state of chaotic anarchy. According to Grimm's law, we derive the English *fiend*, the German *feind*, the Gothic *fijand*, from a root which, if it exists at all in Sanskrit, Latin, Lituanian, or Celtic, must there begin with the tenuis *p*. Such is the phonetic law that holds these languages together, and that cannot be violated with impunity. If we found in Sanskrit a word *fiend*, we should feel certain that it could not be the same as the English *fiend*. Following this rule we find in Sanskrit the root pîy, to hate, to destroy, the participle of which pîyant would correspond exactly with Gothic *fijand*. But suppose we derived *fiend* and other words of a similar sound, such as *foul*, *filth*, &c., from the interjections *fi*, and *pooh* (*faugh! fo! fie!* Lit. *pui*, Germ. *pfui*), all would be mere scramble and confusion; Grimm's law would be broken; and roots, kept distinct in Sanskrit, Greek, Latin, and German, would be mixed up together. For besides pîy, to hate, there is another root in Sanskrit, pûy, to decay. From it we have Latin *pus*, *puteo*, *putridus*; Greek *pýon*, and *pýthô*; Lituanian *pulei*, matter; and, in strict accordance with Grimm's law, Gothic *fûls*, English *foul*. If these words were derived from *fi!* then we should likewise have to include all the descendants of the root bhi, to fear, such as Lituanian *bijau*, I fear, *biaurus*, ugly; in

fact, it would be difficult to know where to stop, for almost everything could become everything.

In the same manner, if we looked upon *thunder* as a mere imitation of the inarticulate noise of thunder, we could not trace the A. S. *thunor* back to the root tan, which expresses that tension of the air which gives rise to sound, but we should have to class it together with other words, such as *to din*, *to dun*, and discover in each, as best we could, some similarity with some inarticulate noise. If, on the contrary, we bind ourselves by definite rules, we find that the same law which changes Sanskrit tan into Gothic *than*, changes another root dhvan into din. There may be, for all we know, some distant relationship between the two roots tan and dhvan; but, from the earliest beginnings of the history of the Aryan language, these two roots were independent germs, each the starting-point of large classes of words, the phonetic character of which is determined throughout by the type from which they issue. To ignore the individuality of each root in Sanskrit, Greek, and Latin, would be like ignoring the individuality of the types of the animal creation. There may be higher, more general, more abstract types, but if we want to reach them, we must first toil through the lower and more special types; we must retrace, in the descending scale of scientific analysis, every step by which, in an ascending scale, language has arrived at its present state.

The onomatopœic system would be the death of all scientific etymology, and no amount of learning and ingenuity displayed in its application could atone

for the lawlessness which is sanctioned by it. If it is once admitted that all words must be traced back to definite roots, according to the strictest phonetic rules, it matters little whether these roots are called phonetic types, more or less preserved in all the innumerable impressions that are taken from them, or whether some scholars prefer to call them onomatopœic and interjectional. As long as we have definite forms between ourselves and chaos, we may build our science like an arch of a bridge that rests on the firm piles fixed in the rushing waters. If, on the contrary, the roots of language are mere abstractions, and there is nothing to separate language from cries and interjections, then we may play with language as children play with the sands of the sea, but we must not complain if every fresh tide wipes out the little castles we had built on the beach.

What the Greeks meant by Onomatopœia.

A very plausible argument in favour of the onomatopœic origin of language has been derived from the totally mistaken idea that the ancient Greek philosophers supported that view. Nothing could have been more remote from their minds. By *onomatopœia* they meant to designate not real words, but made, artificial, imitative words—words that anyone could make at a moment's notice. Even the earliest of Greek philosophers had seen enough of language to know that the key to its mysteries could not be bought so cheaply. When Aristotle[1] calls words imitations (*mimḗmata*),

[1] *Rhet.* iii. 1: τὰ γὰρ ὀνόματα μιμήματά ἐστιν, ὑπῆρξε δὲ καὶ ἡ φωνὴ πάντων μιμητικότατον τῶν μορίων ἡμῖν.

he does not mean those downright imitations, as when we call a cow a moo, or a dog a bow-wow. His statements and those of Plato[1] on language must be read in connection with the statements of earlier philosophers, such as Pythagoras (540–510), Heraclitus (503), Democritus (430–410), and others. We shall then see how much had been achieved before them, how many guesses on language had been made and refuted, before they in turn pronounced their verdict. Although we possess but scant, abrupt, and oracular sayings which are ascribed to those early sages, yet these are sufficient to show that they had pierced through the surface of language, and that the real difficulties of the origin of words had not escaped their notice. When we translate the enigmatic and poetical utterances of Heraclitus into our modern, dry, and definite phraseology, we can hardly do them justice. Perfect as they are when seen in their dark shrines, they crumble to dust as soon as they are touched by the bright rays of our modern philosophy. Yet if we can descend ourselves into the dark catacombs of ancient thought, we feel that we are there in the presence of men who, if they lived with us and could but speak our language, would be looked upon as giants. They certainly had this one advantage over us, that their eyes had not been dimmed by the dust raised in the wars of words that have been going on since their time for more than two thousand years. When we are told that the principal difference of opinion that separated the philosophers of old with

[1] Plato, *Cratylus*, 423 B: *ὄνομα ἄρα ἐστίν, ὡς ἔοικε, μίμημα φωνῇ ἐκείνου ὃ μιμεῖται καὶ ὀνομάζει ὁ μιμούμενος τῇ φωνῇ, ὅταν μιμῆται.*

regard to the nature and origin of language is expressed by the two words *phýsei* and *thései*, 'naturally' and 'conventionally,' we learn very little from such general terms. We must know the whole history of those words, which were watchwords in every school of philosophy, before they dwindled down to mere technical terms. With the later sophists *thései*, 'conventionally,' or the still earlier *nómô*, 'according to rule,' meant no longer what they meant with the fathers of Greek philosophy; nay, they sometimes assumed the very opposite meaning. A sophist like Hermogenes, in order to prove that language existed conventionally, maintained that an apple might have been called a plum, and a plum an apple, if people had only agreed to do so.[1] Another[2] pointed in triumph to his slave, to whom he had actually given a new name, by calling him 'Yet,' in order to prove that any word might be significative. Nor were the arguments in favour of the natural origin of language of a better kind, when the efficacy of curses was quoted to show that words endowed with such

[1] Lersch, *Sprachphilosophie der Alten*, i. p. 28. *Ammonius Hermias ad Aristot. de Interpr.* p. 25 A: Οἱ μὲν οὕτω τὸ θέσει λέγουσιν ὡς ἐξὸν ὁτῳοῦν τῶν ἀνθρώπων ἕκαστον τῶν πραγμάτων ὀνομάζειν ὅτῳ ἂν ἐθέλῃ ὀνόματι, καθάπερ Ἑρμογένης ἠξίου. . . . Οἱ δὲ οὐχ οὕτως, ἀλλὰ τίθεσθαι μὲν τὰ ὀνόματα ὑπὸ μόνου τοῦ ὀνομαθέτου, τοῦτον δὲ εἶναι τὸν ἐπιστήμονα τῆς φύσεως τῶν πραγμάτων, οἰκεῖον τῇ ἑκάστου τῶν ὄντων φύσει ἐπιφημίζοντα ὄνομα, ἢ τὸν ὑπηρετούμενον τῷ ἐπιστήμονι.

[2] *L. c.* i. 42. *Ammonius Hermias ad Aristot. de Interpret.* p. 103: Εἰ δὲ ταῦτα ὀρθῶς λέγεται, δῆλον ὡς οὐκ ἀποδεξόμεθα τὸν διαλεκτικὸν Διόδωρον πᾶσαν οἰόμενον φωνὴν σημαντικὴν εἶναι, καὶ πρὸς πίστιν τούτου καλέσαντα τῶν ἑαυτοῦ τινὰ οἰκετῶν τῷ συλλογιστικῷ συνδέσμῳ Ἀλλά μην καὶ ἄλλον ἄλλῳ συνδέσμῳ· ποίαν γὰρ ἔξουσιν αἱ τοιαῦται φωναὶ σημασίαν φύσεώς τινος ἢ ἐνεργείας ἢ πάθους, καθάπερ τὰ ῥήματα χαλεπὸν καὶ πλάσαι.

powers could not have a merely human or conventional origin.[1]

Greek Theories on Language.

Such was not the reasoning of Heraclitus or Democritus. The language in which they spoke, the whole world of thought in which they lived, did not allow them to discuss the nature and origin of language after the fashion of these sophists, nor after our own fashion. They had to speak in parables, in full, weighty, suggestive poetry, poetry that cannot be translated without an anachronism. We must take their words, such as they are, with all their vagueness and all their depth, but we must not judge them by these words, as if these words were spoken by ourselves. The oracle on language which is ascribed to Heraclitus was certainly his own. Commentators may have spoiled, but they could not have invented it. Heraclitus held that words exist naturally, but he did not confine himself to that technical phraseology. Words, he said,[2] are like shadows of things, like the pictures of trees and mountains reflected in the river, like our own images when we look into a mirror. This sounds like Heraclitus; his sentences are always like nuggets of gold, to use his own simile,[3] without any of the rubbish through which philosophers have to dig before they can bring to light solid truth. He

[1] Lersch, *l. c.* i. p. 44.

[2] Lersch, *l. c.* i. 11. *Ammonius ad Arist. de Interpret.* p. 24 B, ed. Ald.

[3] Bernays, *Neue Bruchstücke des Heraclitus von Ephesus, Rheinisches Museum für Philologie*, x. p. 242: χρυσὸν οἱ διζήμενοι γῆν πολλὴν ὀρύσσουσι καὶ εὑρίσκουσι ὀλίγον. Clemens Stromat. iv. 2, p. 565 P.

is likewise reported to have said, that to use any words except those supplied by nature for each thing, was not to speak, but only to make a noise. What Heraclitus meant by his simile, or by the word 'nature,' if he used it, we cannot know definitely; but we know, at all events, what he did *not* mean, namely, that man imposed what names he pleased on the objects around him. To have perceived that at that time, to have given any thought to that problem in the days when Heraclitus lived, stamps him once for all as a philosopher, ignorant though he may have been of all the rules of our logic, our rhetoric, and our grammar.

It is commonly supposed that, as on all other subjects, so on the subject of language too, Democritus took the opposite view of the dark thinker, nor can we doubt that Democritus represented language as due to *thésis*, i.e. institution, art, convention. None of these terms, however, can more than indicate the meaning of *thésis*. The lengthy arguments which are ascribed to him[1] in support of his theory savour of modern thought, but the similes again, which go by his name, are certainly his own. Democritus called words *agálmata phōnéenta*, statues in sound. Here,

[1] Lersch, i. p. 14. Proclus, *ad Plat. Crat.* p. 6: Ὁ δὲ Δημόκριτος θέσει λέγων τὰ ὀνόματα, διὰ τεσσάρων ἐπιχειρημάτων τοῦτο κατεσκεύαζεν· ἐκ τῆς ὁμωνυμίας· τὰ γὰρ διάφορα πράγματα τῷ αὐτῷ καλοῦνται ὀνόματι· οὐκ ἄρα φύσει τὸ ὄνομα· καὶ ἐκ τῆς πολυωνυμίας· εἰ γὰρ διάφορα ὀνόματα ἐπὶ τὸ αὐτὸ καὶ ἓν πρᾶγμα ἐφαρμόσουσιν, καὶ ἐπάλληλα, ὅπερ ἀδύνατον· τριτὸν ἐκ τῆς τῶν ὀνομάτων μεταθέσεως· διὰ τί γὰρ τὸν Ἀριστοκλέα μὲν Πλάτωνα, τὸν δὲ Τύρταμον Θεόφραστον μετωνομάσαμεν, εἰ φύσει τὰ ὀνόματα; ἐκ δὲ τῆς τῶν ὁμοίων ἐλλείψεως· διὰ τί ἀπὸ μὲν τῆς φρονήσεως λέγομεν φρονεῖν, ἀπὸ δὲ τῆς δικαιοσύνης οὐκ ἔτι παρονομάζομεν; τύχῃ ἄρα καὶ οὐ φύσει τὰ ὀνόματα.

too, we have the pithy expression of ancient philosophy. Words are not natural images, images thrown by nature on the mirror of the soul; they are statues, works of art, only not in stone or brass, but in sound. Such is the opinion of Democritus, though we must take care not to stretch his words beyond their proper intent. If we translate *thései* by artificial, we must not take artificial in the sense of arbitrary. If we translate *nómō* by conventional, we must not take it to mean accidental. The same philosopher would, for instance, have maintained that what we call sweet or sour, warm or cold, is likewise so *thései* or conventionally, but by no means arbitrarily. The war-cries of *phýsei* or *thései*, which are heard through the whole history of these distant battles of thought, involved not only philosophical, but political, moral, religious interests.

We shall best understand their meaning, if we watch their application to moral ideas. *Philolaos*, the famous Pythagorean philosopher, held that virtue existed by nature, not by institution. What did he mean? He meant what we mean when we say that virtue was not an invention of men who agreed to call some things good and others bad, but that there is a voice of conscience within us, the utterance of a divine law, independent of human statutes and traditions, self-evident, irrefragable. Yet even those who maintained that morality was but another name for legality, and that good and bad were simply conventional terms, insisted strongly on the broad distinction between law and the caprice of individuals. The same in language. When Democritus said that words were not

natural images, natural echoes, but works of art in sound, he did not mean to degrade language to a mere conglomerate of sound. On the contrary, had he, with his terminology, ascribed language to nature, nature being with him the mere concurrence of atoms, he would have shown less insight into the origin, less regard for the law and order which pervade language. Language, he said, exists by institution; but how he must have guarded his words against any possible misapprehension, how he must have protested against the confusion of the two ideas, conventional and arbitrary, we may gather from the expression ascribed to him by a later scholiast, that words were statues in sound, but statues not made by the hands of men, but by the gods themselves.[1] The boldness and pregnancy of such expressions are the best guarantee of their genuineness, and to throw them aside as inventions of later writers would betray an utter disregard of the criteria by which we distinguish ancient and modern thought.

Our present object, however, is not to find out what these early philosophers thought of language—I am afraid we shall never be able to do that—but only to guard against their memory being insulted, and their names abused for sanctioning the shallow wisdom of later ages. It is sufficient if we only see clearly that, with the ancient Greeks, language was not considered as mere *onomatopœia*, although that name

[1] *Olympiodorus ad Plat. Philebum*, p. 242, ὅτι ἀγάλματα φωνήεντα καὶ ταῦτα ἐστὶ τῶν θεῶν, ὡς Δημόκριτος. It is curious that Lersch, who quotes this passage (iii. 19), should, nevertheless, have ascribed to Democritus the opinion of the purely human origin of language. (i. 13.)

means, literally, making of names. I should not venture to explain what Pythagoras meant by saying, 'the wisest of all things is Number, and, next to Number, that which gives name.'[1] But of this I feel certain, that by the Second in Wisdom in the universe, even though he may have represented him exoterically as a human being, as the oldest and wisest of men,[2] Pythagoras did not mean the man who, when he heard a cock crow, succeeded in repeating that sound and fixed it as the name of the animal. As to Plato and Aristotle, it is hardly necessary to defend them against the imputation of tracing language back to *onomatopœia*. Even *Epicurus*, who is reported to have said that in the first formation of language men acted unconsciously, moved by nature, as in coughing, sneezing, lowing, barking, or sighing, admitted that this would account only for one-half of language, and that some agreement must have taken place before language really began, before people could know what each person meant by these uncouth utterances.[3] In this *Epicurus* shows a more correct appreciation of the nature of language than many who profess to hold his theories at present.

[1] Lersch, *l. c.* i. 25.

[2] *Ibid. l. c.* i. 27.

[3] Diogenes Laërtius, *Epicurus*, § 75 : *Ὅθεν καὶ τὰ ὀνόματα ἐξ ἀρχῆς μὴ θέσει γενέσθαι, ἀλλ' αὐτὰς τὰς φύσεις τῶν ἀνθρώπων καθ' ἕκαστα ἔθνη ἴδια πάσχουσας πάθη, καὶ ἴδια λαμβάνουσας φαντάσματα, ἰδίως τὸν ἀέρα ἐκπέμπειν, στελλόμενον ὑφ' ἑκάστων τῶν πάθων καὶ τῶν φαντασμάτων, ὡς ἂν ποτε καὶ ἡ παρὰ τοὺς τόπους τῶν ἐθνῶν διαφορὰ εἴη. Ὕστερον δὲ κοινῶς καθ' ἕκαστα ἔθνη τὰ ἴδια τεθῆναι, πρὸς τὸ τὰς δηλώσεις ἧττον ἀμφιβόλους γενέσθαι ἀλλήλοις, καὶ συντομοτέρως δηλουμένας· τινὰ δὲ καὶ οὐ συνορώμενα πράγματα εἰσφέροντας, τοὺς συνειδότας παρεγγυῆσαι τινὰς φθόγγους ὧν τοὺς μὲν ἀναγκασθέντας ἀναφωνῆσαι, τοὺς δὲ τῷ λογισμῷ ἑλομένους κατὰ τὴν πλείστην αἰτίαν οὕτως ἑρμηνεῦσαι.*—Lersch, i. 39.

He met the objection that words, if suggested by nature, ought to be the same in all countries, by a remark in which he anticipated Humboldt, viz. that human nature is affected differently in different countries, that different views are formed of things, and that these different affections and views influence the formation of words peculiar to each nation. He saw that the sounds of nature would never have grown into articulate language without passing through a second stage, which he, from his peculiar point of view, represents as an agreement or an understanding to use a certain sound for a certain conception.

Natural Selection or Rational Elimination.

Let us substitute for this Epicurean idea of a conventional agreement an idea which did not exist in his time, and the full elaboration of which in our own time we owe to the genius of *Darwin*;—let us place instead of agreement, *Natural Selection*, or, as I still prefer to call it, *Natural Elimination*, and we shall then arrive, I believe, at an understanding with *Epicurus*, and even with some of his modern followers.

Natural selection, whenever we can watch it, is invariably rational selection. It is not any accidental variety that survives and perpetuates itself; it is the individual that is best calculated to accomplish the ends for which the type or species to which it belongs was called into being, that conquers in the great struggle for life. So it is in thought and language. Not every random perception is raised to the dignity of a general notion, but only the con-

stantly recurring, the strongest, the most useful; and out of the endless number of general notions that suggest themselves to the observing and gathering mind, those only survive and receive definite phonetic expression which are absolutely requisite for carrying on the work of life. Many perceptions which naturally present themselves to our minds have never been gathered up into general notions, and accordingly they have not received a name. There is no general notion to comprehend all blue flowers or all red stones; no name that *in*cludes horses and dogs, but *ex*cludes oxen and sheep. The Greek language has never produced a word to express *animal* as opposed to *man*, and the word *zôon*, which, like animal, comprises all living creatures, is post-Homeric.[1] *Locke* has called attention to the fact that in English there is a special word for killing a man, namely, *murder*, while there is none for killing a sheep; that there is a special designation for the murder of a father, namely, *parricide*, but none for the murder of a son or a neighbour. 'Thus the mind,' he writes,[2] 'in mixed modes, arbitrarily unites into complex ideas such as it finds convenient; whilst others that have altogether as much union in nature are left loose, and never combined into one idea because they have no need of one name.' And again, '*Colshire*, *drilling*, *filtration*, *cohobation*, are words standing for certain complex ideas, which, being seldom in the minds of any but the few whose particular employments do at every turn suggest

[1] Curtius, *Grundzüge*, i. 78. L. Geiger, *Ursprung der Sprache*, p. 14.
[2] Locke, *On the Understanding*, iii. 5, 6.

them to their thoughts, those names of them are not generally understood but by smiths and chymists, who having framed the complex ideas which these words stand for, and having given names to them or received them from others upon hearing of these names in communication, readily conceive those ideas in their minds; as by *cohobation*, all the simple ideas of distilling and the pouring the liquor distilled from anything back upon the remaining matter, and distilling it again. Thus we see that there are great varieties of simple ideas, as of tastes and smells, which have no names, and of modes many more, which either not having been generally enough observed, or else not being of any great use to be taken notice of in the affairs and concerns of men, they have not had names given to them, and so pass not for species.'[1]

Of course, when new combinations arise, and again and again assert their independence, they at last receive admittance into the commonwealth of ideas and the republic of words. This applies to ancient even more than to modern times—to the early ages of language more than to its present state. It was an event in the history of man when the ideas of father, mother, brother, sister, husband, wife were first conceived and first uttered. It was a new era when the numerals from one to ten had been framed, and when words like law, right, duty, virtue, generosity, love, had been added to the dictionary of man. It was a revelation—the greatest of all revelations—

[1] Locke, *l. c.* ii. 18, 7.

when the conception of a Creator, a Ruler, a Father of man, when the name of God was for the first time uttered in this world. Such were the general notions that were wanted and that were coined into intellectual currency. Other notions started up, lived for a time, and disappeared again when no longer required. Others will still rise up, unless our intellectual life becomes stagnant, and will receive the baptism of language.

Who has thought about the changes which are brought about apparently by the exertions of individuals, but for the accomplishment of which, nevertheless, individual exertions would seem to be totally unavailing, without feeling the want of a word, that is to say, in reality, of an idea, to comprehend the influence of individuals on the world at large and of the world at large on individuals—an idea that should explain the failure of a *Huss* in reforming the Church, and the success of a *Luther*, the defeat of a *Pitt* in carrying parliamentary reform, and the success of a *Russell*? How are we to express that historical process in which the individual seems to be a free agent and yet is the slave of the masses whom he wants to influence, in which the masses seem irresistible, and are yet swayed by the pen of an unknown writer? Or, to descend to smaller matters, how does a poet become popular? How does a new style of art or architecture prevail? How, again, does fashion change?—how does what seemed absurd last year become recognised in this, and what is admired in this become ridiculous in the next season? Or take language itself. How is it that a new word, such as

to shunt,[1] or a new pronunciation, such as *gold* instead of *goold*, is sometimes accepted, while at other times the best words newly coined or newly revived by our best writers are completely ignored and fall dead? We want an idea that is to exclude caprice as well as necessity—that is to include individual exertion as well as general co-operation—an idea applicable neither to the unconscious building of bees nor to the conscious architecture of human beings, yet combining within itself both these operations, and raising them to a new and higher conception. You will guess both the idea and the word, if I add that it is likewise to explain the extinction of fossil kingdoms and the origin of new species—it is the idea of *Natural Selection* or *Rational Elimination* that was wanted, and being wanted it was found, and being found it was named. It is a new category—a new engine of thought; and if naturalists are proud to affix their names to a new species which they discover, Mr. Darwin may be prouder, for his name will remain affixed to a new idea, a new genus of thought.

All Names are General Terms.

There are languages, we are told, without numerals beyond four. All beyond four is lumped together in the general idea of *many*. There are dialects, such as the *Hawaian*, in which[2] black and blue and dark-green are not distinguished, nor bright yellow and white, nor brown and red. This arises from no ob-

[1] See vol. i. p. 37.

[2] *The Polynesian*, September 27, 1862; *Hibbert Lectures*, p. 41.

tuseness of sense, for the slightest variation of tint is immediately detected by the people, but from sluggishness of mind. In the same way the *Hawaians* are said to have but one term for love, friendship, gratitude, benevolence, esteem, &c., which they call indiscriminately *aloha*, though the same people distinguish in their dictionary between *aneane*, a gentle breeze, *matani*, wind, *puhi*, blowing or puffing with the mouth, and *hano*, blowing through the nose, asthma.[1] It is the same in the lower classes of our own country. People who would never use such words as quadruped, or mineral, or beverage, have different names for the tail of a fox, the tail of a dog, the tail of a hare.[2]

Castrèn, the highest authority on the languages, literature, and civilisation of the *Northern Turanian* races, such as the *Fins*, *Laps*, *Tatars*, and *Mongolians*, speaks of tribes which have no word for *river*, though they have names for the smallest *rivulet*; no word for *finger*, but names for the *thumb*, the *ring-finger*, &c.; no word for *berry*, but many names for *cranberry*, *strawberry*, *blueberry*; no word for *tree*, but names for *birch*, *fir*, *ash*, and other trees.[3] He states in another place (p. 18) that in Finnish the word for *thumb* gradually assumed the meaning of *finger*, the word for *waterberry* (empetrum nigrum) the meaning of *berry*.

But even these, the most special names, are really general terms, and express originally a general quality;

[1] Hale, *Polynesian Lexicon*, s. v.
[2] Pott, *Etymologische Forschungen*, ii. 439.
[3] *Vorlesungen über Finnische Mythologie*, p. 11.

nor is there any other way in which they could have been formed. It is difficult to place ourselves in the position of people with whom the framing of new ideas and new words was the chief occupation of their life.[1] But suppose we had no word for *dog*; what could we do? If we, with a full-grown language at our command, became for the first time acquainted with a dog, we should probably discover some similarity between it and some other animal, and call it accordingly. We might call it a tame wolf, just as the inhabitants of *Mallicolo*,[2] when they saw the first dogs that had been sent to them from the *Society Islands*, called them *broods*, their name for *pig*. Exactly the same happened in the island of *Tanna*. Here, too, the inhabitants called the dogs that were sent to them *pigs* (*buga*). It would, however, very soon be felt as an inconvenience not to be able to distinguish between a dog and a pig, and some distinguishing mark of the dog would have to be chosen by which to name it. How could that be effected? It might be effected by imitating the barking of the animal, and calling it *bow-wow*; yet, strange to say, we hardly ever find a civilised language in which the dog was so called. What really took place was this. The mind received numerous impressions from everything that came within its ken. A dog did not stand before it at once, properly defined and classified, but it was observed under different aspects—now as a savage animal, now as a companion, sometimes as a watcher, sometimes as a thief, occasionally as a swift

[1] Daniel Wilson, *Prehistoric Man*, third chapter.
[2] Pott, *Etymologische Forschungen*, ii. 138.

hunter, at other times as a coward or an unclean beast. From every one of these impressions a name might be framed, and after a time the process of natural elimination would reduce the number of these names, and leave only a few, or only one, which, like *canis*, would become the proper name of dog.

Clusters of Roots.

But in order that any such name could be given, it was requisite that general ideas, such as roving, following, watching, stealing, running, resting, should previously have been formed in the mind, and should have received expression in language. These general ideas are expressed by roots. As they are more simple and primitive, they are expressed by more simple and primitive roots, whereas complex ideas found expression in secondary radicals. Thus *to go* would be expressed by sar, to creep, by sarp; to shout by nad, to rejoice by nand, to join by yu or yu*g*, to glue together by yau*t*. We thus find in Sanskrit and in all the Aryan languages *clusters of roots*, expressive of one common idea, and differing from each other merely by one or two additional letters, either at the end or at the beginning. The most natural supposition seems to be that which I have just stated, that as ideas grew and multiplied, simple roots were increased and became diversified. But the opposite view might likewise be defended, namely, that language began with variety, that many special roots were thrown out first, and from them the more general roots elaborated by leaving out those letters which constituted the specific differences of each.

Much may be said in support of either of these views, nor is it at all unlikely that both processes, that of accretion and that of elimination, may have been at work simultaneously. But the fact is that we know nothing even of the most ancient of the Aryan languages, the Sanskrit, till after it had long passed through its radical and agglutinative stages, and we shall never know for certain by what slow degrees it advanced through both, and became settled as an inflectional language. Chronologically speaking, the question whether sarp existed before sar, is unanswerable. Logically, no doubt, sar comes first, but we have seen enough of the history of speech to know that what ought to have been according to the strict laws of logic is very different from what has been according to the pleasure of language.[1]

What it is of the greatest importance to observe is this, that out of many possible general notions, and out of many possible general terms, those only become, through a process of natural selection, typical in each language which are now called the roots, the fertile germs of that language. These roots are definite in form and meaning: they are what I called *phonetic types*, firm in their outline, though still liable to important modifications. They are the '*specific centres*' of language, and without them the science of language would be impossible.

[1] On clusters of roots, or the gradual growth of roots, see some interesting remarks by Benfey, *Kurze Sanskrit Grammatik*, § 60 seq., and Pott, *Etymologische Forschungen*, ii. p. 283. Bopp, *Vergleichende Grammatik*, § 109 *a*, 3, 109 *b*, 1. See vol. i. p. 372.

CHAPTER VIII.

THE ROOT MAR.

LET us now take a root, and follow it through its adventures in its way through the world. There is an Aryan root *MAR*, which means to crush, to pound, to destroy by friction. I should not venture to say that those are mistaken who imagine they perceive in this root the grating noise of some solid bodies grinding against each other. Our idiosyncrasies as to the nature of certain sounds are formed, no doubt, very much through the silent influence of the languages which we speak or with which we are acquainted. It is true, no doubt, also that this jarring or rasping noise is rendered very differently in different languages. Nevertheless, there being such a root as *mar*, meaning to pound, it is natural to imagine that we hear in it something like the noise of two mill-stones, or of a metal-crushing engine.[1]

[1] The following remarks of St. Augustine on this subject are curious:—'Donec perveniatur eo ut res cum sono verbi aliqua similitudine concinat, ut cum dicimus æris tinnitum, equorum hinnitum, ovium balatum, tubarum clangorem, stridorem catenarum (perspicis enim hæc verba ita sonare ut ipsæ res quæ his verbis significantur). Sed quia sunt res quæ non sonant, in his similitudinem tactus valere, ut si leniter vel aspere sensum tangunt, lenitas vel asperitas literarum ut tangit auditum sic eis nomina peperit: ut ipsum *lene* cum dicimus leniter sonat; quis item *asperitatem* non et ipso nomine asperam judi-

But let us mark at once the difference between a mere imitation of the inarticulate groaning and moaning noises produced by crushing hard substances, and the articulate sound *mar*. Every possible combination of consonants with final *r* or *l* suggested itself. *Kr*, *tr*, *chr*, *glr*, all would have answered the purpose, and may have been used, for all we know, previous to the first beginning of articulate speech. But, as soon as *mr* had got the upperhand, all other combinations were discarded. *Mr* had conquered, and became by that very fact the ancestor of a large family of words. If, then, we either follow the history of this root *MAR* in an ascending line and spreading direction, or if we trace its offshoots back in a descending line to their specific germ, we must be able to explain all later modifications, as necessitated by phonetic and etymological laws; in all the various settings, the jewel must be the same; and, in all its various corruptions, the causes must be apparent that produced the damage.

I begin, then, with the root *MAR*, and ascribe to it the meaning of grinding down. In all the words

cet? Lene est auribus cum dicimus *voluptas*, asperum cum dicimus *crux*. Ita res ipsæ adficiunt, ut verba sentiuntur. *Mel*, quam suaviter gustum res ipsa, tam leniter nomine tangit auditum, *acre* in utroque asperum est. *Lana* et *vepres* ut audiuntur verba, sic illa tanguntur. Hæc quasi cunabula verborum esse crediderunt, ubi sensus rerum cum sonorum sensu concordarent. Hinc ad ipsarum inter se rerum similitudinem processisse licentiam nominandi; ut cum verbi causa *crux* propterea dicta sit, quod ipsius verbi asperitas cum doloris quem crux efficit asperitate concordat, *crura* tamen non propter asperitatem doloris sed, quod longitudine atque duritia inter membra cetera sint ligno similiora sic appellata sint.'—Augustinus, *De Dialectica*, as corrected by Crecelius in Hoefer's *Zeitschrift*, iv. 152.

that are derived from *mar* there must be no phonetic change, whether by increase, decrease, or corruption, that cannot be supported by analogy; in all the ideas expressed by these words there must always be a connecting link by which the most elevated and abstract notions can be connected, directly or indirectly, with the original conception of '*grinding*.' In the phonetic analysis, all that is fanciful and arbitrary is at once excluded: nothing is tolerated for which there is not some precedent. In the web of ideas, on the contrary, which the Aryan mind has spun out of that one homely conception we must be prepared not only for the orderly procession of logical thought, but frequently for the poetic flights of fancy. The production of new words rests on poetry as much, if not more, than on judgment; and to exclude the poetical or fanciful element in the early periods of the history of human speech would be to deprive ourselves of the most important aid in unravelling its early beginnings.

Before we enter on our survey of this family of words, we must bear in mind (1) that *r* and *l* are cognate and interchangeable; therefore *mar*=*mal*.

2. That ar in Sanskrit is shortened to a simple vowel, and then pronounced *ri*; hence mar=m*ri*.

3. That *ar* may be pronounced *ra*,[1] and *al*, *la*; hence *mar*=*mra*, *mal*=*mla*.

4. That *mra* and *mla* in Greek are changed into *mbro*, *mblo*, and, after dropping the *m*, into *bro* and *blo*.

[1] In Sanskrit we have marditâ and mraditâ, he will grind to pieces, as the future of mard. See M. M.'s Sanskrit Grammar (2nd ed.), p. 255.

Mar as Transitive.

In Sanskrit we find malana in the sense of rubbing or grinding, but the root does not seem in that language to have yielded any names for mill. This may be important historically, if it should indicate that real mills were unknown previous to the Aryan separation. In Latin, Greek, German, Celtic, Slavonic, the name for mill is throughout derived from the root *mar*. Thus, Latin *mola*,[1] Greek *mýlē*, Old High-German *mulî*, Irish *meile*, Bohemian *mlyn*, Lituanian *malunas*. From these close coincidences among all the members of the Northern branch of the Aryan family, it has been concluded that mills were known previous to the separation of the Northern branch, though it ought to be borne in mind that some of these nations may also have borrowed the name from others who were the first inventors of mills.

With the name for mill we have at the same time the names for *miller*, *mill-stone*, *milling*, *meal*. In Greek *mýlos*, mill-stone; *mýllô*, I mill. In Gothic *malan*, to mill; *melo*, meal; *muljan*, to rub to pieces.

What in English are called the mill-teeth are the *mylîtai* in Greek; the *molâres*, or grinders, in Latin.

To anyone acquainted with the living language of England, the transition from *milling* to *fighting* does not require any long explanation. Hence we trace

[1] See Pott, *Etym. Forsch.* (I.) i. 220. Kuhn, *Indische Studien*, i. 359. Curtius, *G. E.* i. 302.

back to *mar* without difficulty the Homeric *már-na-mai*, I fight, I pound, as applied to boxers in the Odyssey.[1] In Sanskrit, we find *mri-nâ-mi* used in the more serious sense of smashing, i.e. killing.[2] We shall now understand more readily the Greek *môlos* in *môlos Árēos*, the toil and moil of war, and likewise the Greek *mólôps*, a weal, originally a blow, a contusion.

Mar as Intransitive.

Hitherto we have treated *mar* as a transitive verb, as expressive of the action of grinding exerted on some object or other. But most verbs were used originally intransitively as well as transitively, and so was *mar*. What then would *mar* express if used as an intransitive verb, if expressive of a mere condition or status? It would mean 'to be wearing away,' 'to be in a state of decay,' 'to crumble away as if ground to dust.' We say in German, *sich aufreiben*, to become exhausted; and *aufgerieben* means nearly destroyed. Goethe says, '*Die Kraft der Erregbarkeit nimmt mit dem Leben ab, bis endlich den aufgeriebenen Menschen nichts mehr auf der leeren Welt erregt als die künftige*;' 'Our excitability decreases with our life, till at last nothing can excite the ground-down mortal in this empty world except the world to come.' What then is the meaning of the Greek *maraínó* and *marasmós*? *Maraínó*,

[1] *Od.* xviii. 31:

Ζῶσαι νῦν, ἵνα πάντες ἐπιγνώωσι καὶ οἵδε
Μαρναμένους· πῶς δ' ἂν σὺ νεοτέρῳ ἀνδρὶ μάχοιο.

[2] Rigveda, vi. 44, 17: 'pra mrina gahi ka,' strike (them) down and kill them.

as a transitive verb, means to wear out; as *nósos maraínei me*, illness wears me out; but it is used also as a neuter verb in the sense of to wither away, to die away. Hence *marasmós*, decay, the French *marasme*. The adjective *mólys*, formed like *mólos*, means worn out, feeble, and a new verb, *molýnomai*, to be worn out, to vanish.

The Sanskrit mûr*kh*, to faint, is derived from *mar* by a regular process for forming inchoative verbs; it means to begin to die.

Various Ramifications of the Root Mar.

Now let us suppose that the ancient Aryans wanted to express for the first time what they constantly saw around them, namely, the gradual wearing away of the human frame, the slow decay which at last is followed by a complete breaking up of the body. How should they express what we call dying or death? One of the nearest ideas that would be evoked by the constant impressions of decay and death was that expressed by *mar*, the grinding of stone to dust. And thus we find in Latin *mor-i-or*, I die, *mortuus*, dead, *mors*, death. In Sanskrit m*ri*ye, I die, m*ri*ta, dead, m*ri*tyu, death. One of the earliest names for *man* was marta, the dying, the frail creature, a significant name for man to give to himself; in Greek *brotós*, mortal. Having chosen that name for himself, the next step was to give the opposite name to the gods, who were called *ámbrotoi*, without decay, immortal, and their food *ambrosía*, immortality. In the Teutonic languages these words are absent, but that *mar* was used in the

sense, if not of dying, at least of killing, we learn from the Gothic *maurthr*, the English *murder*. In Old Slavonic we find *mrěti*, to die, *morŭ*, pestilence, death; *smrŭtĭ*, death; in Lituanian *mir-ti*, to die, *smertis*, death.

If *morior* in Latin is originally to decay, then what causes decay is *morbus*, illness.

In Sanskrit the body itself, our frame, is called mûrti, which originally would seem to have meant decay or decayed, a corpse, rather than a *corpus*.

The Sanskrit marman, a joint, a member, is likewise by Sanskrit grammarians derived from *mar*. Does it mean the decaying members? or is it not rather derived from *mar* in its original sense of grinding, so as to express the movement of the articulated joints? The Latin *membrum* is *memrum*, and this possibly by reduplication derived from *mar*, like *mémbletai* from *mélô*, *mémblōka* from *mol* in *émolon*, the present being *blôskō*.

Let us next examine the Latin *mŏra*. It means *delay*, and from it we have the French *demeurer*, to dwell. Now *mora* was originally applied to time, and in *mora temporis* we have the natural expression of the slow dying away, the gradual wasting away of time. '*Sine morā*,' without delay, meant originally without decay, without loss of time.

From *mar* in the secondary but definite sense of withering, dying, we have the Sanskrit maru, a desert, dead soil. There is another desert, the sea, which the Greeks called *atrýgeton*, unfruitful, barren. The Aryans had probably not yet seen that watery desert before they separated from each other on

leaving their central homes. But when the Romans for the first time saw the Mediterranean, they called it *măre*, and the same word is found among the Celtic, the Slavonic, and the Teutonic nations.[1] We can hardly doubt that their idea in applying this name to the sea was the dead or stagnant water, as opposed to the running streams (*l'eau vive*), or the unfruitful expanse. Of course there is always some uncertainty in these guesses at the original thoughts which guided the primitive framers of language. All we can do is to guard against mixing together words which may have had an independent origin; but if it is once established that there is no other root from which *mare* can be derived more regularly than from *mar*, to die (Bopp's derivation from the Sk. vâri, water, is not tenable), then we are at liberty to draw some connecting line between the root and its offshoot, and we need not suppose that in ancient days new words were framed less boldly than in our own time. Language has been called by Jean Paul 'a dictionary of faded metaphors': so it is; and it is the duty of the etymologist to try to restore them to their original brightness. If, then, in English we can speak of dead water, meaning stagnant water, or if the French[2] use *eau morte* in the same sense, why should not the Northern Aryans have derived one of their names for the sea from the root *mar*, to die? Of course they would have other names besides, and the more poetical the tribe, the richer it would be in

[1] Curtius, *Zeitschrift*, i. 30. Slav. *mŏre*; Lit. *marios* and *marés*; Goth. *marei*; Ir. *muir*.

[2] Pott, Kuhn's *Zeitschrift*, ii. 107.

names for the ocean. The Greeks, who of all Aryan nations were most familiar with the sea, called it not the dead water, but *thálassa* (*tarássô*), the commotion, *háls*, the briny, *pélagos* (*plázô*), the tossing, *póntos*, the high-road.[1]

Let us now return to the original sense of *mar* and *mal*, which was, as we saw, to grind or to pound, chiefly applied to the grinding of corn and to the blows of boxers. The Greeks derived from it one of their mythological characters, namely, *Mŏlíôn*, a word which, according to Hesychius, would mean a fighter in general, but which, in the fables of Greece, is chiefly known by the two *Mŏlíŏnes*, the millers, who had one body, but two heads, four feet, and four hands. Even *Herakles* could not vanquish them when they fought against him in defence of their uncle *Augeias* with his herd of three thousand oxen. He killed them afterwards by surprise. These heroes having been called originally *Mŏlíŏnes* or *Mŏliŏnídae*, i. e. pounders, were afterwards fabled to have been the sons of *Moliónê*, the mill, and *Áktōr*, the corn-man. Some mythologists[2] have identified these twins with thunder and lightning, and it is curious that the name of *Thor's* thunderbolt should be derived from the same root; for the hammer of *Thor Miölnir*[3] means simply the

[1] Curtius, Kuhn's *Zeitschrift*, i. 33.

[2] Friedreich, *Realien in der Iliade und Odyssee*, p. 562; Preller, *Griechische Mythologie*, ii. 165.

[3] Grimm, *Deutsche Mythologie*, 164, 1171. 'The holy mawle' (maul, maillet, malleus) is referred by Grimm to the hammer of Thor. 'The holy mawle, which they fancy hung behind the church-door, which, when the father was seaventie, the sonne might fetch to knock his father on the head, as effete and of no more use.'—Haupt's *Zeitschrift*, v. 72.

smasher. Again, among the Slavonic tribes, *molnija* is a name for lightning; and in the Serbian songs *Munja* is spoken of as the sister of *Grom*, the thunder, and has become a mythological personage.

Besides these heroic millers, there is another pair of Greek giants, known by the name of *Aloadae*, *Otos*, and *Ephialtes*. In their pride they piled *Ossa* on *Olympus*, and *Pelion* on *Ossa*, like another Tower of Babel, in order to scale the abode of the gods. They were defeated by *Apollo*. The name of these giants has much the same meaning as that of the *Moliones*. It is derived from *alōē*, a threshing-floor, and means threshers. The question, then, is whether *alōē*, threshing-floor, and *áleuron* and *tà áleura*, wheat-flour, can be traced back to the root *mal*. It is sometimes said that Greek words may assume an initial *m* for euphony's sake. That has never been proved. But it can be shown by several analogous cases that Greek words, originally beginning with *m*, occasionally drop that *m*. This, no doubt, is a violent change, and a change apparently without any physiological necessity, as there is no more difficulty in pronouncing an initial *m* than in pronouncing an initial vowel. However, there is no lack of analogies in Greek; and by analogies we must be guided. Thus *móschos*, a tender shoot, exists also as *óschos* or *óschē*, a young branch. Instead of *mía*, one, in the feminine, we find *ía* in Homer. Nay, instead of our very word *áleuron*, wheaten flour, another form, *máleuron*, is mentioned by *Helladius*.[1] Again, if we compare Greek and

[1] Cf. Lobeck, *Pathologia Græc. Sermonis*, p. 112. In Sanskrit *ridu* in *ridu*-pa, bee, *lit.* the drinker of sweet things, can hardly be anything but a dialectic form of *mridu*, sweet.

Latin, we find that what the Romans called *mola*—namely, meal, or rather the grits of spelt, coarsely ground, which were mixed with salt, and thus strewed on the victims at sacrifices—were called in Greek *oulaí* or *olaí*, though supposed to be barley instead of spelt.[1] On the strength of these analogies, or, it may be, anomalies, we need not hesitate to admit the possibility of an initial *m* being dropt in Greek, and this would enable us to trace the names both of the *Moliones* and *Aloadae* back to the root *mar*.

We may now take another step. If the *Moliones* and *Aloadae*[2] derive their names from the root *mar*, may we not suppose that *Mars*, and possibly *Ares* also, the prisoner of the *Aloadae*, came both from the same source? In Sanskrit the root mar yields Marut, the storm, literally the pounder or smasher;[3] and in the character of the Maruts, the companions of Indra in his daily battle with Vritra, it is easy to discover the germs of martial deities. The same root would fully explain the Latin *Mars*,[4] *Martis*; and, if we once admit the possible loss of an initial *m*, the Greek *Árēs*,

[1] Cf. Buttmann, *Lexilogus*, p. 450.

[2] Otos and Ephialtes, the wind (vâta) and the hurricane.

[3] Professor Kuhn takes Marut as a participle in at, and explains it as dying or dead. He considers the Maruts were originally conceived as the souls of the departed, and that because the souls were conceived as ghosts, or spirits, or winds, the Maruts assumed afterwards the character of storm-deities. Such a view, however, finds no support in the hymns of the Veda. In *Pilumnus*, the brother of *Picumnus*, both companions of Mars, we have a name of similar import, viz. a pounder. *Jupiter Pistor*, too, was originally the god who crushes with the thunderbolt (Preller, *Römische Mythologie*, p. 173), and the *Molæ Martis* seem to rest on an analogous conception of the nature of *Mars*.

[4] The suffix in *Mars*, *Martis*, is different from that in Márut. The Sanskrit Márut is mar-vat; *Mars*, *Martis*, is formed, like *pars*,

Áreôs. *Marmar*, an old Latin name for *Mars*, in the song of the Arvalian brothers, is a reduplicated formation; and in the Oscan *Mâmers* the *r* of the reduplicated syllable is lost. *Mâvors* is more difficult to explain,[1] for there is no instance in Latin of *m* in the middle of a word being changed into *v*.

But although etymologically there is no difficulty in deriving the Indian name Marut,[2] the Latin name *Mars*, nay, possibly the Greek name *Ares* also, from one and the same root,[3] there is at first sight neither in the legends of *Mars* nor in those of *Ares* any very distinct trace of their having been representatives of the storm. *Mars* at Rome and *Ares* in Thracia, though their worship was restricted to small territories, both assumed there the character of supreme tutelary deities. The only connecting link between the classi-

partis, which happens to correspond with Sanskrit pár-us or pár-van. The Greek *Árēs* is again formed differently, but the Æolic form, *Áreus*, a possible Sanskrit Aru, would come nearer to Marut. Kuhn, *Zeitschrift*, i. 376.

[1] See Corssen, in Kuhn's *Zeitschrift*, ii. 1–35.

[2] *Mamurius* is the name of a totally different character, the very opposite of *Mars*.

[3] That Marut and *Mars* were radically connected, was first pointed out by Professor Kuhn, in Haupt's *Zeitschrift*, v. 491; but he derived both words from *mar*, in the sense of dying. Other derivations are discussed by Corssen, in Kuhn's *Zeitschrift*, ii. 1. He quotes Cicero (*Nat. Deor.* ii. 28): 'Jam qui magna verteret Mavors;' Cedrenus (*Corp. Byz. Niebuhr*, t. i. p. 295, 21 ff.): ὅτι τὸν Μάρτεμ οἱ Ῥωμαῖοι μόρτεμ ἐκάλουν οἱονεὶ θάνατον, ἢ κινητὴν τῶν τεχνῶν, ἢ τὸν παρ' ἀρρένων καὶ μόνων τιμώμενον; Varro (*L.L.* v. § 73, ed. O. Müller). 'Mars ab eo quod maribus in bello præst, aut quod ab Sabinis acceptus, ibi est Mamers.' He himself explains *Mars* as *mas*, the male, the creative. He takes *mâmert* and *marmar* as reduplicated forms, and explains *Mâvort* by *Mamort*. The typical form would be *Mas*, and Varro and Priscianus have *Maspiter* for *Marspiter*. See also Leo Meyer, in Kuhn's *Zeitschrift*, v. 387.

cal deities *Mars* and *Ares* and the Indian Maruts is their warlike character; and if we take Indra as the conqueror of winter, as the destroyer of darkness, as the constant victor in the battle against the hostile powers of nature, then he, as the leader of the Maruts, who act as his army, assumes a more marked similarity with *Mars*, the god of spring, the giver of fertility, the destroyer of evil.[1] In *Ares*, Preller, without any thought of the relationship between *Ares* and the Maruts, discovered the personification of the sky as excited by storm.[2]

We have hitherto examined the direct offshoots only of the root *mar*, but we have not yet taken into account the different modifications to which that root itself is liable. This is a subject of considerable im-

[1] See Preller, *Römische Mythologie*, p. 300 seq.

[2] Preller, *Griechische Mythologie*, pp. 202–3: 'Endlich deuten aber auch verschiedene bildliche Erzählungen in der Ilias eine solche Naturbeziehung an, besonders die Beschreibung der Kämpfe zwischen Ares und Athena, welche als Göttin der reinen Luft und des Aethers die natürliche Feindin des Ares ist, und gewöhnlich sehr unbarmherzig mit ihm umgeht. So Il. v. 583 ff., wo sie ihn durch Diomedes verwundet, Ares aber mit solchem Getöse niederrasselt (ἔβραχε), wie neuntausend oder zehntausend Männer in der Schlacht zu lärmen pflegen, worauf er als dunkles Gewölk zum Himmel emporfährt. Ebenso Il. xxi. 400 ff., wo Athena den Ares durch einen Steinwurf verwundet, er aber fällt und bedeckt sieben Morgen Landes im Fall, und seine Haare vermischen sich mit dem Staube, seine Waffen rasseln: was wieder ganz den Eindruck eines solchen alten Naturgemäldes macht, wo die Ereignisse der Natur, Donnerwetter, Wolkenbruch, gewaltiges Stürmen und Brausen in der Luft als Acte einer himmlischen Göttergeschichte erscheinen, in denen gewöhnlich Zeus, Hera, Athena, Hephästos, Ares und Hermes als die handlenden Personen auftreten. Indessen ist diese allgemeine Bedeutung des Ares bald vor der speciellen des blutigen Kriegsgottes zurückgetreten.' See also *Il.* xx. 51: Αὖε δ' Ἄρης ἐτέρωθεν, ἐρεμνῇ λαίλαπι ἶσος. *Il.* ix. 4:

Ὡς δ' ἄνεμοι δύο πόντον ὀρίνετον ἰχθυόεντα,
Βορέης καὶ Ζέφυρος, τώ τε Θρῄκηθεν ἄητον.

portance, though at the same time beset with great difficulties and uncertainties. Hindu grammarians have reduced the whole wealth of their language to about 1,700 roots. These roots once granted, they maintained that there remained not a single word unexplained in Sanskrit. But the fact is that many of these roots are clearly themselves derivatives. Thus, besides yu, to join, we find yu*g*, to join, and yudh, to join in battle. Here *g* and dh are clearly modificatory letters, which must originally have had some meaning. Another root, yau*t*, in the sense of joining or glueing together, must likewise be considered as a dialectic variety of yu*g*.[1]

Let us apply this to our root *MAR*. As yu forms yudh, so will mar form mardh or m*r*idh, and this root exists in Sanskrit in the sense of destroying, killing; hence m*r*idh, enemy.[2]

Again, as yu produces yu*g*, so mar might produce mar*g* or m*rig*. This is a root of very common occurrence. It means to rub, but not in the sense of destroying, like m*r*idh and m*rin*, but in the sense of cleaning or purifying. This is its usual meaning in Sanskrit, and it explains, for instance, the Sanskrit name for cat, namely, mârgâra, literally the animal that always rubs or cleans itself. In Greek we find *omórgny-mi* in the same sense. But this general meaning became still more defined in Greek, Latin, German, and Slavonic, and by changing *r* into *l* the root *malg* was formed, meaning to rub or stroke the udder of the

[1] This subject has been more fully treated in *Science of Thought*, pp. 350 seq.

[2] Rigveda, vi. 53, 4: 'ví mṛídhaḥ gahi,' kill the enemies.

cow, i.e. to milk. Thus *mélgō*, and *amélgō*, in Greek, mean to milk; in Latin, *mulgēre* has the same meaning. In Old High-German we find the substantive *milchu*, and from it new verbal derivatives in the sense of milking. In Lituanian, *milzti* means both to milk and to stroke. These two cognate meanings are kept asunder in Latin by *mulgēre*, as distinct from *mulcēre*, to stroke, and we thus discover a third modification of *mar* with final palatal s, viz. m a r s. This root expresses in Sanskrit the idea of gentle stroking, and with certain prepositions comes to mean to revolve, to meditate, to think. In the Latin *marcus*, a large hammer or pestle, on the contrary, the fundamental idea is not that of gentle stroking, but of violent strokes. *Marcus*, like *Marcius*, *Marcianus*, and *Marcellus*, became a proper name, and occurs again in later times in the name of *Charles Martel*.

The verb *marcere* has a different history altogether. We saw that the root *mar* meant originally the gradual wearing away of the human body. *Marcere* exhibits the same idea in a secondary form. It means to droop, to faint, to fade. From it *marcidus*, withered, feeble. In Greek we have the adjective *malakós*, which may be related. It means soft and smooth, originally rubbed down or polished; and it comes to mean at last feeble, sick, or effeminate.[1]

One of the most regular modifications of m a r would be m r â, and this, under the form of m l â, means in Sanskrit to wither, to fade away. In Greek, *ml* being frequently rendered by *bl*, we can

[1] Cf. Latin *lēvis*; ἁμαλός, if for μαμαλος, soft, may belong to the same root. We have to consider, however, the Attic ἁμαλός.

hardly be wrong in referring to this base *bláx*, meaning slack in body and in mind, and the Gothic *malsk-s*, foolish.[1] Soft and foolish are used synonymously in many languages, nor is it at all unlikely that the Greek *môros*, foolish, may come from our root *mar*, and have meant at first soft.

Here we see how different meanings play into each other. A violent blow and a soft stroke share almost the same name, and what from one point of view is looked upon as worn down and destroyed, is from another point of view considered as smooth and brilliant. We saw that in *omórgnymi* the meaning fixed upon was that of rubbing or wiping clean, in *amélgô* that of rubbing or milking; and we can see how a third sense, that of rubbing in the sense of hurting, tearing off or plucking off, is expressed in Sanskrit by m a r*k*, to hurt, in Greek by *mérgô* or *amérgô*.

If we suppose our root *mar* strengthened by means of a final labial, instead of the final guttural which we have just been considering, we have *marp*, a base frequently used by Greek poets. It is generally translated by catching (and wrongly identified with *harpázô*), but we perceive traces of its original meaning in such expressions as *gêras émarpse*,[2] old age ground him down; *chthóna márpte podoîin* (*Il.* xvi. 228), he struck or pounded the earth with his feet.

Let us keep to this new base, *marp*, and consider that it may assume the forms of *malp* and *mlap*; let us then remember that *ml*, in Greek, is interchangeable with *bl*, and we arrive at the new base, *blap*,

[1] Curtius, *G. E.* i. 303.

[2] *Od.* xxiv. 390.

well known in the Greek *bláptô*, I damage, I hinder, I mar. This *bláptō* still lives in the English *to blame*, the French *blâmer*, for *blasmer*, which is a corruption of *blasphémer*. The Greek *blasphēmeîn*, again, stands for *blapsiphēmeîn*, i.e. to use damaging words; and in *blapsi* we see the verb *bláptô*, the legitimate offspring of our root *mar*.

One of the most prolific descendants of *mar* is the root *mard*. It occurs in Sanskrit as m*ṛ*idnâti, and as mradati, in the sense of rubbing down; but it is likewise used, particularly if joined with prepositions, in the sense of to squash, to overcome, to conquer. From this root we have the Sanskrit m*ṛ*idu, soft[1] (also *ṛ*idu), the Latin *mollis* (mard, mald, mall), the Old Slavonic *mladu* (maldu), and, though formed by a different suffix, the English *mellow*. In all these words what is ground down to powder was used as the representative of smoothness, and was readily transferred to moral gentleness and kindness. Dust itself was called by the same root in its simplest form, namely, m*ṛ*id, which, after meaning dust, came to mean soil in general, or earth. M*ṛ*itsna also means dust in Sanskrit.

The Gothic *malma*, sand, belongs to the same class of words; so does the Modern German *zermalmen*, to grind to pieces, and the Gothic *malwjan*, used by Ulfilas in the same sense.

In Latin this root has thrown out several offshoots. *Malleus*, a hammer, stands probably for *mardeus*; and

[1] Curtius (*G. E.* p. 222) points out the analogous case of Greek *τέρην*, tender, if derived from *τερ*, as in *τείρω*. If so, *terra* also, dust, might be explained like Sanskrit m*ṛ*id, dust, earth.

even *martellus*, unless it stands for *marcellus*, claims the same kin. In a secondary form we find our root in Latin as *mordēre*, to bite, originally to grind or worry.

In English, *to smart* has been well compared with *mordēre*, the *s* being a formative letter with which we shall meet again.[1] 'A wound smarts,' means a wound bites or hurts. It is thus applied to every sharp pain, and in German *Schmerz* means pain in general.[2]

This root *mard*, the Greek *méldô*, to make liquid, assumes in English regularly the form *malt* or *melt*; nor is there any doubt that the English *to melt* meant originally to make soft, if not by the blows of the hammer, at least by the licking of the fire, and the absorbing action of the heat. *Mulciber*, a name of Vulcan, means the smelter, and is derived from *mulcere*.[3] The German *schmelzen* has the same power, and is used both as a transitive and an intransitive verb. Now let us watch the clever ways of language. An expression was wanted for the softening influence which man exercises on man by looks, gestures, words, or prayers. What could be done? The same root was taken which had conveyed before the idea of smoothing a rough surface, of softening a hard substance; and, with a slight modification, the root *mard* became fixed as the Sanskrit *mṛid*, or *mṛil*, to soften, to propitiate. It was used in that sense chiefly with regard to the gods, who were to be pro-

[1] See Grimm, *Deutsche Grammatik*, ii. p. 701.

[2] Cf. Ebel, in Kuhn's *Zeitschrift*, vii. 226, where *σμερδαλέος* is likewise traced to this root, and the Gothic *marzjan*, to mar. See also Benary, Kuhn's *Zeitschrift*, iv. 48.

[3] Corssen, *Beiträge*, p. 356.

pitiated by prayers and sacrifices. It was likewise used in an intransitive sense of the gods themselves, who were implored to melt, to become softened and gracious; and prayers which we now translate by 'Be gracious to us,' meant originally 'Melt to us, O gods.' [1]

From this source springs the Gothic *mild*, the English *mild*, originally soft or gentle. The Lituanian takes from it its name for love, *meile*; and in Greek we find *meília*, gladdening gifts or appeasements, and such derivatives as *meilíssô*, to soothe, and *meílichos*, gentle.

This was one aspect of the process of melting; but there was a second, equally natural, namely, that of melting or dying away in the sense of desiring, yearning, grieving after a thing. We might say a man melts in love, in grief (in German *er zerschmilzt, er vergeht vor Liebe*), and the Greeks said in the same sense *meledaínô*, I melt, i. e. I care for, *meledṓnē*, anxiety, grief. *Meldómenos*, too, is explained by Hesychius in the sense of desiring.[2] But more than this. We saw before that there is sufficient evidence for the occasional disappearance of the initial *m* in the root *mar*. We therefore are justified in identifying the Greek *éldomai* with an original *méldomai*. And what does *éldomai* mean in Greek? It means to die for a thing, to desire a thing;[3] that is to say, it means exactly what it ought to

[1] Rigveda, vi. 51, 5: 'Vasavaḥ mṛilata naḥ.'

[2] Cf. Curtius, *G. E.* ii. 167.

[3] In Wallachian, *dor* means desire, but it is in reality the same as Italian *duolo*, pain. Cf. Diez, s. v. Analogous constructions in Latin, *Corydon ardebat Alexin.*

mean if it is derived from the root which we have in *méldô*, I melt.

We have, while engaged in these investigations, met on several occasions with an *s* prefixed to *mar*, and we have treated it simply as a modificatory element added for the purpose of distinguishing words which it was felt desirable to keep distinct. Without inquiring into the real origin of this *s*, which has formed the subject of violent disputes between Professors Pott and Curtius, we may take it for granted that the Sanskrit root smar is closely related to the root mar; nor is it difficult[1] to discover how the meaning of smar, namely, to remember, could have been elaborated out of *mar*, to grind. We saw over and over again that the idea of melting glided into that of loving, hoping, and desiring, and we shall find that the original meaning of smar in Sanskrit is to desire, to brood, not to remember.[2] Thus Sanskrit smara is love, very much like the Lituanian *meile*, love, i. e. melting. From this meaning of desiring, new meanings branched off, such as dwelling on, brooding over, musing over, and then recollecting. In the other Aryan languages the initial *s* does not appear. We have *memor* in Latin, *memoria*, *memorare*, all in the special sense of remembering; but in Greek *mermaírô* means simply I brood, I care, I mourn; *mérimna* is

[1] Curtius mentions *smar* as one of the roots which, if not from the beginning, 'had, at all events before the Aryan separation, assumed an entirely intellectual meaning.'—*G. E.* i. 84.

[2] Pânini, Dhâtupâṭha, 19, 46: 'sm*ri* âdhyâne, Vp. autkye,' which Colebrooke translates by to regret or remember with tenderness. Mâdhava explains the term by utka*nthâ*-pûrvaka*m* smara*n*am, recollection preceded by longing.

anxiety, and even *mártyr* need not necessarily mean a man who remembers, but a man who cares for, who cherishes, who holds a thing.[1]

Strange as it may seem, the same root which after expressing desiring and brooding, came to mean to remember, lent itself likewise to the expression of the idea of forgetting. In this case we must go back to the fundamental idea of *mar*, which was to fade away, to decay in an intransitive sense. This, applied transitively, would naturally come to mean to forget. Thus mardh in Sanskrit means to forget, marsh comes to mean, not only to forget, but not to mind, to bear, to forgive. Nay, *mrishâ* is a common adverb, meaning in vain.

In unravelling this cluster of words, it has been my chief object to trace the gradual growth of ideas, the slow progress of the mind from the single to the general, from the material to the spiritual, from the concrete to the abstract. To rub down or to polish leads to the idea of propitiation; to wear off or to wither are expressions applied to the consuming feeling of hopes deferred and hearts sickening, and ideas like memory and martyrdom are clothed in words taken from the same source. From the very nature of these inquiries into the growth and ramifications of the meaning of roots, it follows that they can be hypothetical only. Into the question of the formal modifications of the root *mar* I do not mean to enter here. But whatever view we take, whether we look

[1] Cf. *ἰόμωρος*, *ἐγχεσίμωρος*, in the sense of caring for arrows, spears, &c., Benary, Kuhn's *Zeitschrift*, iv. 53; and *ἴστορες θεοί*, *Ἄγραυλος*, *Ἐνυάλιος*, *Ἄρης*, *Ζεύς*, Preller, *Griechische Mythologie*, p. 205.

upon marg, mard, mardh, mars, marsh as survivals of an even larger number of parallel roots, or as derivatives[1] from one common root, we can hardly doubt their more or less distant relationship. And if that is granted, all we can do is to discover, if possible, the more or less hidden passages through which the human mind arrived from one very simple concept, at ideas apparently so distant from one another as to remember, to forget, to die and to love, to hurt and to soften.

The fates and fortunes of this one root *mar* form but a small chapter in the history and growth of the Aryan languages; but we may derive from this small chapter some idea as to the power and elasticity of roots, and the unlimited sway of metaphor in the formation of new ideas.

[1] Thus Brugmann, in his *Grundriss*, § 404, takes marsh, to forget, as possibly formed by composition, mṛs dō being assimilated to mṛz-dō.

CHAPTER IX.

METAPHOR.

Locke on Language.

FEW philosophers have so clearly perceived the importance of language in all the operations of the human mind, few have so constantly insisted on the necessity of watching the influence of words on thought as *Locke* in his Essay concerning Human Understanding. Of the four books into which this great work is divided, one, the third, is entirely devoted to Words or Language in general. At the time when Locke wrote, but little attention had been paid to the philosophy of language, and the author, afraid that he might seem to have given more prominence to this subject than it deserved, thought it necessary to defend himself against such a charge in the following words:—

> What I have here said concerning words in this third book will possibly be thought by some to be much more than what so slight a subject required. I allow it might be brought into a narrower compass; but I was willing to stay my reader on an argument that appears to me new, and a little out of the way (I am sure it is one I thought not of when I began to write); that by searching it to the bottom, and turning it on every side, some part or other might meet with every one's thoughts, and give occasion to the most averse or negligent to reflect on a general miscarriage, which, though of great consequence, is

little taken notice of. When it is considered what a pudder is made about essences, and how much all sorts of knowledge, discourse, and conversation are pestered and disordered by the careless and confused use and application of words, it will, perhaps, be thought worth while thoroughly to lay it open. And I shall be pardoned if I have dwelt long on an argument which I think, therefore, needs to be inculcated; because the faults men are usually guilty of in this kind are not only the greatest hindrances of true knowledge, but are so well thought of as to pass for it. Men would often see what a small pittance of reason and truth, or possibly none at all, is mixed with those huffing opinions they are swelled with, if they would but look beyond fashionable sounds, and observe what ideas are, or are not, comprehended under those words with which they are so armed at all points, and with which they so confidently lay about them. I shall imagine I have done some service to truth, peace, and learning, if, by an enlargement on this subject, I can make men reflect on their own use of language, and give them reason to suspect, that since it is frequent for others, it may also be possible for them, to have sometimes very good and approved words in their mouths and writings, with very uncertain, little, or no signification. And, therefore, it is not unreasonable for them to be wary herein themselves, and not to be unwilling to have these examined by others.[1]

And again, when summing up the results of his inquiries, Locke says:

For since the things the mind contemplates are none of them, besides itself, present to the understanding, it is necessary that something else, as a sign or representation of the thing it considers, should be present to it; and these are ideas. And because the scene of ideas that make one man's thoughts cannot be laid open to the immediate view of another, nor laid up anywhere but in the memory—a no very sure repository—therefore, to communicate our thoughts to one another, as well as record them for our own use, signs of our ideas are also necessary. Those which men have found most convenient, and

[1] Locke, *On the Understanding*, iii. 5, 16.

therefore generally make use of, are articulate sounds. *The consideration, then, of ideas and words as the great instruments of knowledge, makes no despicable part of their consideration, who would take a view of human knowledge in the whole extent of it. And, perhaps, if they were distinctly weighed and duly considered they would afford us another sort of logic and critic, than what we have been hitherto acquainted with.*

But, although so strongly impressed with the importance which language, as such, claims in the operations of the understanding, Locke himself never gave a clear definition of ideas as distinguished from words, and he never seemed to have perceived that the two are inseparable, that the one cannot exist without the other, and that an arbitrary imposition of articulate sounds to signify definite ideas, is an assumption unsupported by any evidence. Locke never seems to have realised the intricacies of the naming, or, as he would prefer to say, names-giving process, and though he admits frequently the difficulty, nay, sometimes, the impossibility, of our handling any general ideas without the outward signs of language, he never questions for a moment the received theory that at some time or other in the history of the world men had accumulated a treasure of anonymous general conceptions, to which, when the time of intellectual and social intercourse had arrived, they skilfully attached those phonetic labels which we call words.

The Historical School.

The age in which Locke lived and wrote was not partial to those inquiries into the early history of mankind which have, during the last two generations,

engaged the attention of the most eminent philosophers. Instead of gathering the fragments of the primitive language, poetry, and religion, not only of the Greeks and Romans, but of all the nations of the world, and instead of trying to penetrate, as far as possible, into the real and actual life of the fathers of the human race, and thus to learn how both in our thoughts and words we came to be what we are, the great schools of philosophy in the 18th century were satisfied with building up theories how language might have sprung into life, how religion might have been revealed or invented, how mythology might have been put together by priests, or poets, or statesmen, for the purposes of instruction, of amusement, or of fraud. Such systems, though ingenious and plausible, and still in full possession of many of our handbooks of history and philosophy, will have to give way to the spirit of what may be called the *Historical School* of the 19th century. The principles of these two schools are diametrically opposed; the one begins with theories without facts, the other with facts without theories. The systems of *Locke*, *Voltaire*, and *Rousseau*, and in later times of *Comte*, are plain, intelligible, and perfectly rational; the facts collected by men like *Wolf*, *Herder*, *Niebuhr*, *F. Schlegel*, *W. von Humboldt*, *Bopp*, *Burnouf*, *Grimm*, *Bunsen*, and others, are fragmentary, the inductions to which they point incomplete and obscure, and opposed to many of our received ideas. Nevertheless, the study of the antiquity of man, the Palæontology of the human mind, can never again be allowed to become the playground of mere theorisers, however bold and brilliant, but

must henceforth be cultivated in accordance with those principles that have produced rich harvests in other fields of inductive research. It is no want of respect for the great men of former ages to say that they would have written differently if they had lived in our days. *Locke*, with the results of Comparative Philology before him, would have cancelled, I believe, the whole of his third book 'On the Human Understanding;' and even his zealous and ingenious pupil, *Horne Tooke*, would have given us a very different volume of 'Diversions of Purley.' But in spite of this, there are no books which with all their faults—nay, on account of these very faults—are so instructive to the student of language as *Locke's* Essay, and *Horne Tooke's* Diversions; nay, there are many points bearing on the later growth of language which they have handled and cleared up with greater mastery than even those who came after them.

Material Meaning of Words.

Thus the fact that all words expressive of immaterial conceptions are derived by metaphor from words expressive of sensuous ideas was for the first time clearly and definitely put forward by Locke, and is now fully confirmed by the researches of comparative philologists. All roots, i. e. all the material elements of language, are expressive of sensuous impressions, and of sensuous impressions only; and as all words, even the most abstract and sublime, are derived from roots, comparative philology fully endorses the conclusions arrived at by Locke. This is what Locke says (iii. 2, 5):

It may also lead us a little toward the original of all our notions and knowledge, if we remark, how great a dependence our words have on common sensible ideas; and how those, which are made use of to stand for actions and notions quite removed from sense, have their rise from thence, and, from obvious sensible ideas, are transferred to more abstruse significations, and made to stand for ideas that come not under the cognisance of our senses: e.g. *to imagine, apprehend, comprehend, adhere, conceive, instil, disgust, disturbance, tranquillity,* &c., are all words taken from the operations of sensible things, and applied to certain modes of thinking. *Spirit,* in its primary signification, is breath; *angel,* a messenger; and I doubt not, but *if we could trace them to their sources, we should find, in all languages, the names which stand for things that fall not under our senses, to have their first rise from sensible ideas.* By which we may give some kind of guess, what kind of notions they were and whence derived, which filled their minds, who were the first beginners of languages; and how nature, even in the naming of things, unawares suggested to men the originals and principles of all their knowledge; whilst, to give names, that might make known to others any operations they felt in themselves, or any other ideas that come not under their senses, they were fain to borrow words from ordinary known ideas of sensation, by that means to make others the more easily to conceive those operations they experimented in themselves, which made no outward sensible appearances; and then, when they had got known and agreed names, to signify these internal operations of their own minds, they were sufficiently furnished to make known by words all their other ideas, since they could consist of nothing but either of outward sensible perceptions, or of the inward operations of their minds about them; we having, as has been proved, no ideas at all, but what originally came either from sensible objects without, or what we feel within ourselves from the inward workings of our own spirits, of which we are conscious to ourselves within.

This passage, though somewhat involved and obscure, is a classical passage, and has formed the subject of many commentaries, both favourable and

unfavourable. Some of Locke's followers, particularly Horne Tooke, used the statement that all abstract words had originally a material meaning, in order to prove that all our knowledge was restricted to sensuous knowledge; and such was the apparent cogency of their arguments, that, to the present day, those who are opposed to materialistic theories consider it necessary to controvert the facts alleged by Locke and Horne Tooke, instead of examining the cogency of the consequences that are supposed to flow from them. Now the facts stated by Locke seem to be above all doubt. *Spiritus* is certainly derived from a verb *spirare*, which means to draw breath. The same applies to *animus*. *Animus*, the mind, as Cicero says,[1] is so called from *anima*, air. The root is *an*, which in Sanskrit means to blow, and which has given rise to the Sanskrit and Greek words for wind, an-ila and *án-emos*. Thus the Greek *thymós*, the soul, comes from *thýein*, to rush, to move violently, the Sanskrit dhû, to shake. From dhû we have in Sanskrit dhûli, *dust*, which comes from the same root, and dhûma, smoke, the Latin *fumus*. In Greek, the same root supplied *thýella*, storm-wind, and *thymós*, the soul, as the seat of the passions. Plato guesses correctly when he says (*Crat.* p. 419) that *thymós*, soul, is so called ἀπὸ τῆς θύσεως καὶ ζέσεως τῆς ψυχῆς. *To imagine* certainly meant in its original conception to make pictures, to picture to ourselves; but even to picture is far too mixed an idea to have been expressed by a

[1] Cicero, *Tuscul.* i. 9, *sub fin.* Locke, *Human Understanding*, iv. 3, 6, note (ed. London, 1836, p. 412). 'Anima sit animus ignisve nescio,' &c.

simple root. *Imago*, picture, stands for *mimago*, as *imitor* for *mimitor*, the Greek *miméomai*, all from a root *mâ*, to measure, and therefore meaning originally to measure again and again, to copy, to imitate. *To apprehend* and *to comprehend* meant to grasp at a thing and to grasp a thing together; *to adhere* to one's opinions was literally to stick to one's opinions; *to conceive* was to take and hold together; *to instil* was to drop or pour in; *to disgust* was to create a bad taste; *to disturb* was to throw into disorder; and *tranquillity* was calmness, and particularly the smoothness of the sea.

Look at any words expressive of objects which cannot fall under the immediate cognisance of the senses, and you will not have much difficulty in testing the truth of Locke's assertion that such words are invariably derived from others which originally were meant to express the objects of the senses.

I begin with a list of Kafir metaphors:—

Words.	Literal meaning.	Figurative meaning.
beta	beat	punish
dhlelana	to eat together	to be on terms of intercourse
fa	to be dying	to be sick
hlala	to sit	to dwell, live, continue
ihlati	bush	refuge
ingcala	flying-ant	uncommon dexterity
inncwadi	kind of bulbous plant	book, glass
inja	dog	a dependant
kolwa	to be satisfied	to believe
lila	to cry	to mourn
mnandi	sweet	pleased, agreeable
gauka	to be snapped asunder	to be quite dead

Words.	Literal meaning.	Figurative meaning.
umsila . .	. tail . . .	. court messenger
zidhla . .	. to eat oneself .	. to be proud
akasiboni .	. he does not see us	. he is above noticing us
nikela indhlebe	. give the ears .	. listen attentively
ukudhla ubomi	. to eat life . .	. to live
ukudhla umntu	. to eat a person .	. to confiscate his property
ukumgekeza inkloko,	to break his head	. to weary one
ukunuka umntu	. to smell a person	. to accuse one of witchcraft [1]

In New Guinea 'to have pity' can only be expressed by a word which means originally 'to have a stomach-ache.'[2] Our own word *tribulation*, anxiety, is derived from *tribulum*, a sledge used by the ancient Romans for rubbing out the corn, consisting of a wooden platform, studded underneath with sharp pieces of flint or with iron teeth.[3] The similarity between the state of mind that had to be expressed and the state of the grains of corn shaken in a *tribulum* is evident, and so striking that, if once used, it was not likely to be forgotten again. This *tribulum*, again, is derived from the verb *terere*, to rub or grind. *Tribulare* is used by Tertullian in the sense of oppressing.[4] Now suppose a man's mind so oppressed with the weight of his former misdeeds that he can hardly breathe, or look up, or resist the pressure, but feels crushed and ground to dust within himself, that man would describe his state of mind as a state of *contrition*,

[1] Appleyard, *l. c.* p. 70.
[2] See Introduction to Lawes, Motu Grammar, 1865.
[3] See White, *Latin-English Dictionary*, s. v.
[4] Diez, *Grammatik*, p. 27.

which means 'being ground to pieces,' from the same verb *terere*, to grind.

The French *penser*, to think, is the Latin *pensare*, which would mean to weigh, and lead us back to *pendĕre*, to lift, to weigh.[1] 'To be in suspense' literally means to be hung up, and swaying to and fro. 'To suspend judgment' means to hang it up, to keep it from taking effect.

Doubt, again, the Latin *dubium*, expresses literally the position between two points, from *duo*, just as the German *Zweifel* points back to *zwei*, two. In Sanskrit doubt is expressed by samsaya, i.e. lying together, or sandeha, sticking together.

To believe is generally identified with the German *belieben*, to be pleased with a thing, or *erlauben*, to approve; the Latin *libet*, it pleases. But *to believe*, as well as the German *glauben*, meant originally more than simply to approve of a thing. Both words must be traced back to the word *lubh*, which has retained its original meaning in the Sanskrit lobha, desire, and the Latin *libido*, violent, irresistible desire.[2] The same root was afterwards taken to express that irresistible passion of the soul, which makes man break through the evidence of the senses and the laws of reason (*credo quia absurdum*), and drives him, by a power which nothing can control, to embrace some truth which alone can satisfy the natural cravings of his being. This is belief in its truest sense, though it dwindles down in the course of time to mean no more

[1] See *Biographies of Words*, p. 65.

[2] 'Der Glaube ist wie die Liebe: er lässt sich nicht erzwingen.' —Schopenhauer, *Parerga*, ii. 326.

than to suppose, or to be pleased, just as *I love*, which is derived from the same root as *to believe*, comes to mean, I like.

Truth has been explained by Horne Tooke as that which a man *troweth*. This, however, would explain very little. *To trow* is but a derivative verb, meaning to make or hold a thing true. But what is *true*?[1] *True*, Goth. *triggw-s*, is connected with the Sk. root *darh*, to be firm, and meant originally firm, solid, anything that will hold.

Another word for *true* in Sanskrit is satya, an adjective formed from the participle present of the auxiliary verb as, to be. Sat corresponds to the Latin *ens*, being; from it satya, true, the Greek *eteós*,[2] the A.S. *sóth*, English *sooth*, as in *soothsayer*, *forsooth*, &c. If I say that sat corresponds to the Latin *ens*, the similarity may not seem very striking. Yet Latin *ens* clearly stands for *sens*, which appears in *præ-sens*.[3] The nominative singular of sat is san, because in Sanskrit we cannot have a word ending in ns. But the accusative sing. is santam=*sentem*, the nom. plur. santa =*sentes*; so that there can be no doubt as to the identity of the two words in Sanskrit and Latin.

[1] Kuhn's *Zeitschrift*, vii. 62; Leo Meyer, *Goth. Sprache*, § 29.

[2] See Pott, *Etymologische Forschungen*, ii. p. 364; Kern, in Kuhn's *Zeitschrift*, viii. 400. It should be remembered that in satya, the t belongs to the base, and that the derivative element is not tya, Greek σιός, but ya. Whether εὸς represents the same suffix as ya in Sanskrit may be doubtful. See, however, Bopp, *Vergleich. Gr.* (2), § 109 a, 2 (p. 212); and § 956. Sattva in Sanskrit means being and a being.

[3] *Essentia* is a word formed in defiance of the rules of philology. It was meant to express the Greek οὐσία, in which case it ought to have been *entia*. Seneca, *Ep.* 58, holds Cicero responsible for the word.

And how did language express what, if it were a rational conception at all, would seem to be the most immaterial of all conceptions—namely, *nothing*? It was expressed in the only way in which it could be expressed—namely, by the negation of, or the comparison with, something real and tangible.[1] It was called in Sanskrit asat, that which is not; in Latin *nihil*, i. e. *nihilum*,[2] which stands for *nifilum*, i. e. *nefilum*, and means 'not a thread or shred.' In French *rien* is actually a mere corruption of *rem*, the accusative of *res*, and retains its negative sense even without the negative particle by which it was originally preceded. Thus *ne-pas* is *non-passum*, not a step; *ne-point* is *non-punctum*, not a point. The French *néant*, Italian *niente*, are the Latin *non ens*. And

[1] 'Denique vox hæc *nihil* nomen est, rei tamen nomen esse non potest. Nam si e. g. subducentes binarium et ternarium ex quinario, non videmus ullum residuum, si illius subductione meminisse velimus, oratio hæc *nihil residuum est*, et in illa nomen *nihil* inutile non est. Propter eandem rationem etiam *minus quam nihil* dicetur recta de residuo, ubi majus detrahitur a minore. Hujusmodi enim residua doctrinae causa fingit sibi animus, cupitque, quoties opus est, in memoriam revocare.' Hobbes, *Logica*, i. 2, 6.

[2] Cf. Kuhn, *Zeitschrift*, i. 544. Dietrich mentions similar cases of shortening, such as *cognĭtus* and *nōtus*, *pejĕro* and *jūro*. Bopp has clearly given up the etymology of *nihil*, which he proposed in the first edition of his *Comparative Grammar*, as it is suppressed in the second. It is to be regretted that Mr. White, in his *Latin-English Dictionary*, should continue to quote from the first edition only of Bopp's work. As to *h* taking the place of *f*, we know that in Spanish Latin *f* is frequently represented by *h*, e. g. *hablar* = *fabulari*, *hijo* = *filius*, *hierro* = *ferrum*, *hilo* = *filum*. Instead of *filii* we find ἴλλι in *Trinchera*, p. 194. In Latin itself, too, these two letters are occasionally interchanged. Instead of *hircus*, the Sabines said *fircus*; instead of *hœdus*, *fœdus*; instead of *harena*, *farena*. Nay, double forms are mentioned in Latin, such as *hordeum* and *fordeum*; *hostis* and *fostis*; *hariolus* and *fariolus*. See Corssen, *Aussprache der Lateinischen Sprache*, p. 46.

now observe for a moment how fables will grow up under the charm of language. It was perfectly correct to say, 'I give you nothing,' i. e. 'I give you not even a shred.' Here we are speaking of a relative nothing; in fact, we only deny something, or decline to give something. It is likewise perfectly correct to say, on stepping into an empty room, 'There is nothing here,' meaning not that there is absolutely nothing, but only that things which we expect to find in a room are not there. But by dint of using such phrases over and over again, a vague idea is gradually formed in the mind of a Nothing, and *Nihil* becomes the name of something positive and real. People at a very early time began to talk of the Nothing,[1] as if it were a something; and they gradually brought themselves to tremble at the idea of *annihilation*—an idea utterly inconceivable, except in the brain of a madman. *Annihilation*, if it meant anything, could etymologically—and in this case, we may add, logically too—mean nothing but to be reduced to a something which is not a shred—surely no very fearful state, considering that in strict logic it would comprehend the whole realm of existence, ex-

[1] Mill on Hamilton, p. 346, quotes Hamilton as saying: 'We can conceive no real annihilation, no absolute sinking of something into nothing.' Mill says: 'If our incapacity of conceiving annihilation only means that we cannot represent to ourselves an universe devoid of existence, I do not deny it. Whatever else we may suppose removed, there always remains the conception of empty space, and Sir W. H. is probably right in his opinion, that we cannot imagine even empty space without clothing it mentally with some sort of colour or figure. But we can conceive both a beginning and an end to all physical existence. As a mere hypothesis, the notion that matter cannot be annihilated, arose early.'

clusive only of what is meant by *shred*. Yet what speculations, what fears, what ravings, have sprung from this word *Nihil*—a mere word, and nothing else! We see things grow and decay, we witness the birth and death of living things, but we never see anything lost or annihilated. Now, what does not fall within the cognisance of our senses, and what contradicts every principle of our reasoning faculties, has no right to be expressed in language. We may use the names of material objects to express immaterial objects, if they can be rationally conceived. We can conceive, for instance, powers not within the ken of our senses, yet endowed with a material reality. We can call them *spirits*, literally breezes, though we understand perfectly well that by spirits we mean something else than mere breezes. We can call them *shadows* or *shades*, though we mean something very different from a mere negation of light. But a Nothing, an absolute Nothing, that is neither visible, nor conceivable, nor imaginable, ought never to have found expression, ought never to have been admitted into the dictionary of rational beings.

Now, if we consider how people talk about the Nothing, how poets make it the subject of the most harrowing strains;[1] how it has been, and still is, one of the principal ingredients in most systems of philosophy—nay, how it has been dragged into the domain of religious thought, and, under the name of Nirvâna,

[1] 'The thought of an immense abysmal Nothing is awful, only less so than that of All and God; and thus a grain of sand, being a fact, a reality, rises before us into something prodigious and immeasurable—a fact that opposes and counterbalances the immensity of non-existence.' —Sterling, in his *Thoughts and Images*.

has become the highest goal of millions among the followers of Buddha—we may perhaps, even at this preliminary stage of our inquiries, begin to appreciate the power of language over thought, and feel less surprise at the ancient nations for having allowed the names of natural objects, the sky, the sun, the moon, the dawn, and winds, to assume the character of supernatural powers or divine personalities, or for having offered worship and sacrifice to such abstract names as Fate, Justice, or Victory. There is as much mythology in our use of the word Nothing as in the most absurd portions of the mythological phraseology of India, Greece, and Rome; and if we ascribe the former to a disease of language, the causes of which we are able to explain, we shall have to admit that, in the latter, language has reached to an almost delirious state, and has ceased to be what it was meant to be, the expression of the impressions received through the senses, or of the conceptions of a rational mind.

But to return to Locke's statement, that all names of *im*material objects are derived from the names of material objects. Many philosophers, as I remarked, instead of grappling manfully with the conclusions that are supposed to flow from Locke's observation, have preferred to question the accuracy of his observation.

Cousin and Locke.

Victor Cousin, in his 'Lectures on the History of Philosophy during the Eighteenth Century,'[1] endea-

[1] Paris, 1841. Vol. ii. p. 274.

vours to controvert Locke's assertion by the following process :—

I shall give you two words (he says), and I shall ask you to trace them back to primitive words expressive of sensible ideas. Take the word *je*, I. This word, at least in all languages known to me, is not to be reduced, not to be decomposed, primitive ; and it expresses no sensible idea, it represents nothing but the meaning which the mind attaches to it ; it is a pure and true sign, without any reference to any sensible idea. The word *être*, to be, is exactly in the same case ; it is primitive and altogether intellectual. I know of no language in which the French verb *être* is rendered by a corresponding word that expresses a sensible idea ; and therefore it is not true that all the roots of language, in their last analysis, are signs of sensible ideas.

Now it must be admitted that the French *je*, which is the Sanskrit aham, is a word of doubtful etymology. It belongs to the earliest formations of Aryan speech, and we need not wonder that even in Sanskrit the materials out of which this pronoun was formed should have disappeared. We can explain in English such words as *myself* or *your honour* ; but we could not attempt, with the means supplied by English alone, to analyse *I*, *thou*, and *he*. It is the same with the Sanskrit aham, a word carried down by the stream of language from such distant ages, that even the Vedas, as compared with them, are but, as it were, of yesterday. But though the etymology of aham is doubtful, it has never been doubtful to any scholar that, like all other words, it must have an etymology ; that it must be derived either from a predicative or from a demonstrative root. Those who would derive aham from a predicative root, have thought of the

root ah, to breathe, to speak.[1] Those who would derive it from a demonstrative root, refer us to the Vedic gha, the later ha, *this*, used like the Greek ὅδε. We saw before how the pronoun of the first person is expressed in Chinese, and although such expressions as 'servant says,' instead of 'I say,' may seem to us modern and artificial, they are not so in Chinese, and show at all events that even so colourless an idea as *I* may meet with signs sufficiently pale and faded to express it.[2]

With regard to *être*, to be, the case is different. *Être*[3] is the Latin *esse*, changed into *essere* and contracted. The root, therefore, is as, which, in all the Aryan languages, has supplied the material for the auxiliary verb. Now, even in Sanskrit, it is true, this root as is completely divested of its material character; it means *to be*, and nothing else. But there is in Sanskrit a derivative of the root as, namely, asu, and in this asu, which means the vital breath, the original meaning of the root as has been

[1] I thought it possible, in my *History of Sanskrit Literature*, p. 21, to connect ah-am with Sanskrit âha, I said, Greek ἦ, Latin *ajo* and *nego*, nay, with Gothic *aḥma* (instead of *agma*), spirit; but I do so no longer. Nor do I accept the opinion of Benfey (*Sanskrit Grammatik*, § 773), who derives aham from the pronominal root gha with a prosthetic a. It is a word which, for the present, must remain without a genealogy.

[2] Jean Paul, in his *Levana*, p. 32, says, '"I" is—excepting God, the true I and true Thou at once—the highest and most incomprehensible that can be uttered by language, or contemplated. It is there all at once, as the whole realm of truth and conscience, which, without "I," is nothing. We must ascribe it to God, as well as to unconscious beings, if we want to conceive the being of the One, and the existence of the others.'

[3] Cf. Diez, *Lexicon*, s. v. 'essere.'

preserved. As, in order to give rise to such a noun as asu, must have meant *to breathe*, then *to live*, then *to exist*, and it must have passed through all these stages before it could have been used as the abstract auxiliary verb which we find not only in Sanskrit, but in all Aryan languages. Unless this one derivative asu, life, had been preserved in Sanskrit, it would have been impossible to guess the original material meaning of the root as, to be; yet even then the student of language would have been justified in postulating such a meaning. And even in French, though *être* may seem an entirely abstract word, the imperfect *j'étais*, the participle *été*, like the Spanish *estaba* and *estado*, are clearly derived from Latin *stare*, to stand, and show how easily so definite an idea as *to stand* may dwindle down to the abstract idea of *being*. If we look to other languages, we shall find again and again the French verb *être* rendered by corresponding words that expressed originally a sensible idea. Our verb *to be* is derived from Sanskrit bhû, which, as we learn from Greek *phýô*, meant originally to grow.[1] *I was* is connected with the Gothic *wisan*, which means *to dwell*.

But though on this point the student of language must side with Locke, and admit, without one single exception, the material character of all words, nothing can be more convincing than the manner in which *Victor Cousin* disposes of the conclusions which some philosophers, though certainly not Locke himself, seem inclined to draw from such premises.

[1] See M. M.'s *Essay on the Aryan and Aboriginal Languages of India*, p. 344.

Further (he writes) even if this were true, and absolutely true, which is not the case, we could conclude no more than this. Man is at first, by the action of all his faculties, carried out of himself and toward the external world; the phenomena of the external world strike him first, and hence these phenomena receive the first names. The first signs are borrowed from sensible objects, and they are tinged to a certain extent by their colours. When man afterwards turns back on himself, and lays hold more or less distinctly of the intellectual phenomena which he had always, though somewhat vaguely, perceived; if, then, he wants to give expression to the new phenomena of mind and soul, analogy leads him to connect the signs he seeks with those he already possesses: for analogy is the law of each growing or developed language. Hence the metaphors to which our analysis traces back most of the signs and names of the most abstract moral ideas.

Nothing can be truer than the caution thus given by Cousin to those who would use Locke's observation as an argument in favour of a one-sided sensualistic philosophy.

The Power of Metaphor.

Metaphor is one of the most powerful engines in the construction of human speech, and without it we can hardly imagine how any language could have progressed beyond the simplest rudiments. Metaphor generally means the transferring of a name from the object to which it properly belongs to other objects which strike the mind as in some way or other participating in the peculiarities of the first object. The mental process which gave to the root *mar* the meaning of *to propitiate* was no other than this, that men perceived some analogy between the smooth surface produced by rubbing and polishing and the smooth expression of countenance, the smoothness of

voice, and the calmness of looks produced even in an enemy by kind and gentle words. Thus, when we speak of a crane, we apply the name of a bird to an engine. People were struck with some kind of similarity between the long-legged bird picking up his food with his long beak and their rude engines for lifting weights. In Greek, too, *géranos* has both meanings. This is metaphor. Again, cutting remarks, glowing words, fervent prayers, slashing articles, all are metaphor. *Spiritus* in Latin meant originally blowing, or wind. But when the principle of life within man or animal had to be named, its outward sign, namely, the breath of the mouth, was naturally chosen to express it. Hence in Sanskrit asu, breath and life; in Latin *spiritus*, breath and life. Again, when it was perceived that there was something else to be named, not the mere animal life, but that which was supported by this animal life, the same word was chosen, in the Modern Latin dialects, to express the spiritual as opposed to the mere material or animal element in man. All this is metaphor.

We read in the Veda, ii. 3, 4:[1]—'Who saw the first-born when he who had no form (lit. bones) bore him that had form? Where was the breath (asuḥ), the blood (asṛik), the self (âtma) of the earth? Who went to ask this from any that knew it?'

Here *breath*, *blood*, *self* are so many attempts at expressing what we should now call cause.

The Metaphorical Period.

But let us now consider for a moment that what

[1] M. M., *History of Sanskrit Literature*, p. 20.

philosophers, and particularly Locke, have pointed out as a peculiarity of certain words, such as *to apprehend, to comprehend, to understand, to fathom, to imagine, spirit,* and *angel,* must have been, in reality, a peculiarity of a *whole period* in the early history of speech. No advance was possible in the intellectual life of man without metaphor. Most roots that have yet been discovered, had originally a material meaning. We meet with roots meaning to strike, to bend, to break, to clean, to join, to lick, to pound, but we never meet with primitive roots expressive of actions or states that do *not* fall under the cognisance of the senses. Sometimes their meaning is more special, and then becomes generalised; sometimes it is general, and becomes specialised.[1] Language has been a very good housewife to her husband, the human Mind; she has made very little go a long way. With a very small store of such material roots as we just mentioned, she has furnished decent clothing for the numberless offspring of the Mind, leaving no idea, no sentiment unprovided for, except, perhaps, the few which, as we are assured by some poets, are inexpressible.

Thus from roots meaning to be bright, to sparkle, names were formed for sun, moon, stars, the eyes of man, gold, silver, play, joy, happiness, love. With roots meaning to strike, it was possible to name an axe, the thunderbolt, a fist, a paralytic stroke, a striking remark, and a stroke of business. From roots meaning to go, names were derived for clouds, for ivy, for creepers, serpents, cattle, and chattel, move-

[1] See *Science of Thought,* p. 641.

able and immoveable property. With a root meaning to crumble, expressions were formed for sickness and death, for evening and night, for old age, and for the fall of the year.

Radical and Poetical Metaphor.

We must now endeavour to distinguish between two kinds of metaphor, which I call *radical* and *poetical*. I call it *radical* metaphor when a root which means to shine is applied to form the names, not only of the fire or the sun, but of the spring of the year, the morning light, the brightness of thought, or the joyous outburst of hymns of praise. Ancient languages are brimful of such metaphors, and under the microscope of the etymologist almost every word discloses traces of its first metaphorical conception.

From this we must distinguish *poetical* metaphor, namely, when a noun or verb, ready made and assigned to one definite object or action, is transferred poetically to another object or action. For instance, when the rays of the sun are called the hands or fingers of the sun, the noun which means hand or finger existed ready made, and was, as such, transferred poetically to the stretched out rays of the sun. By the same process the clouds are called mountains, the rain-clouds are spoken of as cows with heavy udders, the thunder-cloud as a goat or as a goat-skin, the sun as a horse, or as a bull, or as a giant bird, the lightning as an arrow, or as a serpent.

What applies to nouns, applies likewise to verbs. A verb such as 'to give birth' is used, for instance,

of the night producing, or, more correctly, preceding the day, as well as of the day preceding the night. The sun, under one name, is said to beget the dawn, because the approach of daylight gives rise to the dawn; under another name the sun is said to love the dawn, because he follows her as a bridegroom follows after his bride; and lastly, the sun is said to destroy the dawn, because the dawn disappears as soon as the sun has risen. From another point of view the dawn may be said to give birth to the sun, because the sun seems to spring from her lap; she may be said to die or disappear after having given birth to her brilliant son, because as soon as the sun is born, the dawn must vanish. All these metaphors, however full of contradictions, were perfectly intelligible to the ancient poets, though to our modern understanding they are frequently riddles difficult to solve. We read in the Rigveda (x. 189),[1] where the sunrise is described, that the dawn comes near to the sun, and breathes her last when the sun draws his first breath. The commentators indulge in the most fanciful explanations of this expression without suspecting the simple conception of the poet, which after all is very natural, namely that the dawn vanishes after the sun has risen.

Let us consider, then, that there was, necessarily and really, a period in the history of our race when all the thoughts that went beyond the narrow horizon of our every-day life had to be expressed by means of metaphors, and that these metaphors had not yet

[1] See M. M., *Die Todtenbestattung der Brahmanen*, p. xi.

become what they are to us, mere conventional and traditional expressions, but were felt and understood half in their original and half in their modified character. We shall then perceive that such a period of thought and speech must be marked by features very different from those of any later age.

Homonymy and Polyonymy.

One of the first results would naturally be that objects in themselves quite distinct, and originally conceived as distinct by the human intellect, would nevertheless receive the same name. If there was a root meaning to shine forth, to revive, to gladden, that root might be applied to the dawn, as the burst of brightness after the dark night, to a spring of water, gushing forth from the rock and gladdening the heart of the traveller, and to the spring of the year, that awakens the earth after the death-like rest of winter.[1] The spring of the year, the spring of water, the day-spring, would thus, though for different reasons, go by the same name, they would be what Aristotle calls *homonyma* or *namesakes*. On the other hand, the same object might strike the human mind in various ways. The sun might be called the warming and generating, but likewise the scorching and killing; the sea might be called the barrier as well as the bridge, and the high-road of commerce; the clouds might be spoken of as bright cows with heavy udders, or as dark and roaring demons. Every day that dawns in the morning might be called the twin of the night

[1] See M. M., in Kuhn's *Zeitschrift*, xix. 44.

that follows the day, or all the days of the year might be called brothers or so many head of cattle which are driven to their heavenly pasture every morning, and shut up in the dark stable of *Augeias* at night. In this manner one and the same object would receive many names, or would become, as the Stoics called it, *polyonymous*, many-named—having many *aliases*.

Now it has always been pointed out as a peculiarity of what we call ancient languages, that they have many words for the same thing, these words being sometimes called *synonymes*; and likewise, that their words have frequently very numerous meanings. Yet what we call ancient languages, such as the Sanskrit of the *Vedas* or the Greek of Homer, are in reality very modern languages; that is to say, they show clear traces of having passed through many, many successive periods of growth and decay, before they became what we know them to be in the earliest literary documents of India and Greece. What, then, must have been the state of these languages in their earlier periods, before many names, that might have been and were applied to various objects, were restricted to one object, and before each object, that might have been and was called by various names, was reduced to one name! Even in our days we confess that there is a great deal in a name; how much more must that have been the case during the primitive ages of man's childhood!

The Mythic Period.

The period in the history of language and thought which I have thus endeavoured to describe as charac-

terised by what we may call two tendencies, the *homonymous* and the *polyonymous*,[1] I shall henceforth call the *mythic* or *mythological period*, and I shall try to show how much of what has hitherto been a riddle in the origin and spread of myths becomes perfectly intelligible, if considered in connection with the early phases through which language and thought must necessarily pass.

Before I enter, however, on a fuller explanation of my meaning, I think it right to guard from the beginning against two mistakes, to which the name of *Mythic Period* might possibly give rise. What I call a period is not so in the strict sense of the word: it has no fixed limits that could be laid down with chronological accuracy. There is a time in the early history of all nations in which the mythological character predominates to such an extent that we may speak of it as the mythological period, just as we might call the age in which we live the age of discoveries. But the tendencies which characterise the mythological period, though they necessarily lose much of that power with which, at one time, they swayed every intellectual movement, continue to work under different disguises in all ages, even in our own, though perhaps the least given to metaphor, poetry, and mythology.

Secondly, when I speak of a mythic period, I do not use *mythic* in the restricted sense in which it is generally used, namely, as being necessarily connected with stories about gods, heroes, and heroines. In

[1] Augustinus, *De Civ. Dei*, vii. 16: 'Et aliquando unum deum res plures, aliquando unam rem deos plures faciunt.'

the sense in which I use *mythic*, it is applicable to every sphere of thought and every class of words, though, from reasons to be explained hereafter, religious ideas are most liable to mythological expression. Whenever any word, that was at first used metaphorically, is used without a clear conception of the steps that led from its original to its metaphorical meaning, there is danger of mythology; whenever those steps are forgotten and artificial steps put in their places, we have mythology, or, if I may say so, we have diseased language, whether that language refers to religious or secular interests. Why I use the term mythic or mythological in this wide sense, a sense not justified by Greek or Roman usage, will appear when we come to see how what is commonly called mythology is but a part of a much more general phase through which all language has at one time or other to pass.

After these preliminary remarks, I now proceed to examine some cases of what I called *radical* and *poetical metaphor*.

Cases of Radical Metaphor.

Cases of radical metaphor, though numerous in radical and agglutinative languages, are less frequent in inflectional languages, such as Sanskrit, Greek, and Latin. Nor is it difficult to account for this. It was the very inconvenience caused by words which failed to convey distinctly the intention of the speaker that gave the impulse to that new phase of life in language which we call *inflectional*. Because it was felt to be important to distinguish between the *bright one*, i.e.

the sun, and the *bright one*, i. e. the day, and the *bright one*, i. e. wealth, therefore the root vas, to be bright, was modified by inflection, and broken up into Vi-vas-vat, the sun, vas-ara, day, vas-u, wealth. In a radical and in many an agglutinative language, the mere root vas would have been considered sufficient to express, *pro re natâ*, any one of these meanings. Yet inflectional languages, too, yield frequent instances of radical metaphor, some of which, as we shall see, have led to very ancient misunderstandings, and, in course of time, to mythology.

There is, for instance, in Sanskrit, a root ark or ar*k*, which means to be bright; but, like most primitive verbs, it is used both in a transitive and intransitive sense, thus meaning both *to be bright* and *to make bright*. Only 'to make bright' meant more in that ancient language than it means with us. To make bright meant to cheer, to gladden, to celebrate, to glorify, and it is constantly used in these different senses by the ancient poets of the Veda. Now, by a very simple and intelligible process, the meaning of this root ar*k* might be transferred to the sun, or the moon, or the stars; all of them might be called ar*k* or *rik* without any change in the outward appearance of the root. For all we know, *rik*, as a substantive, may really have conveyed all these meanings during the earliest period of the Aryan languages. But if we look at the fully developed branches of that family of speech, we find that in this, its simplest form, *rik* has been divested of all meanings except one; it only means a song of praise, a hymn, that gladdens the heart and brightens the counte-

nance of the gods, or that makes their power effulgent and manifest.[1] The other meanings, however, which *rik* might have expressed were not entirely given up; they were only rendered more definite by new and distinct grammatical modifications of the same root. Thus, in order to express light or ray, ar*k*í was formed, a masculine, and very soon also a neuter, ar*k*ís. Neither of these nouns is ever used in the sense of praise which clings to *rik*; they have only the sense of light and splendour.

Again, quite regularly, a new derivative was formed, namely, arká*h*, a masculine. This likewise means light, or ray of light, but it has been fixed upon as the proper name of the light of lights, the sun. Arká*h*, then, by a very natural metaphor, became one of the many names of the sun; but by another metaphor, which we explained before, arká*h*, with exactly the same accent and gender, was also used in the sense of hymn of praise. Now here we have a clear case of radical metaphor in Sanskrit. It was not the noun arká*h*, in the sense of sun, that was, by a bold flight of fancy, transferred to become the name of a hymn of praise, nor *vice versâ*. The same root ar*k*, under exactly the same form, was bestowed independently on two distinct conceptions. If the reason of the independent bestowal of the same root on these two distinct ideas, sun and hymn, was forgotten, there was danger of mythology, and we actually find in India

[1] The passage in the Vâ*g*asaneyi Sanhitâ, 13, 39, '*rik*é tvâ ru*k*é tvâ,' contains either an isolated remnant of the original import of the root, preserved in a proverbial phrase, or it is a mere etymological play.

that a myth sprang up, and that hymns of praise were fabled to have proceeded from, or to have originally been revealed by, the sun.

The Great Bear.

Our root ar*k* offers us another instance of the same kind of metaphor, but slightly differing from that just examined. From *rik*, in the sense of shining, it was possible to form a derivative *rik*ta, in the sense of lighted up, or bright. This form does not exist in Sanskrit; but as kt in Sanskrit is liable to be changed into ks,[1] we may recognise in *rik*sha the same derivative of *rik*. *Rik*sha, in the sense of bright, has become the name of the bear, though it is difficult to say for what reason, whether from his bright eyes or from his brilliant tawny fur.[2] The same name *rik*sha was given in Sanskrit to the stars, the

[1] Kuhn, in the *Zeitschrift für die Wissenschaft der Sprache*, i. 155, was the first to point out the identity of Sk. *rik*sha and Greek ἄρκτος in their mythological application. He proved that ksh in Sanskrit represented an original kt, in takshan, carpenter, Gr. τέκτων; in kshi, to dwell, κτίω; in vakshas, Lat. *pectus* (?). Curtius, in his *Grundzüge*, added kshan, to kill, Gr. κταν; Aufrecht (Kuhn's *Zeitschrift*, viii. 71), kshi, to kill, κτι in κτίννυμι; Leo Meyer (v. 374), ksham, earth, Gr. χθών. To these may be added kshi, to possess, or kshaya = κτάομαι; and perhaps kshu, to sneeze, πτύω, to spue, if it stands for κτύω. In φθί-σις, also, the root may be kshi; kshîyate, he perishes.

[2] Grimm (*D.W.* s. v. Auge and Bär) compares *rik*sha, Bär, not only with ἄρκτος, *ursus*, Lit. *lokis* (instead of *olkis*, *orkis*), Irish *art* (instead of *arct*), but also with Old High-German *ëlaho*, which is not the bear, but the elk, the *alces* described by Cæsar, *B. G.* vi. 27. This *alces*, however, the Old High-German *ëlaho*, would agree better with *risa* or *risya*, some kind of roebuck, mentioned in the Veda (Rv. viii. 4, 10). *Eland*, the Dutch name for elk, comes from the Lituanian *elnis*, Russ. *oléne*, a stag. In German this word has become *Elen*, *Elend*, and *Elentier*, in French *élan*.

bright ones. It is used as a masculine and neuter in the later Sanskrit, as a masculine only in the Veda. In one passage of the Rigveda, i. 24, 10, we read as follows:—'These stars fixed high above, which are seen by night, whither did they go by day?' The commentator, it is curious to observe, is not satisfied here with this translation of *rikshas* in the sense of stars in general, but appeals to the tradition of the Vâgasaneyins, in order to show that the stars here called *rikshas*, are the same constellation which in later Sanskrit is called 'the Seven *Rishis*,' or 'the Seven Sages.' They are the stars that never seem to set during the night, and therefore the question whither they went by day would naturally suggest itself to people in the North of India. Anyhow, the tradition is there, and the question is whether it can be explained. Now, remember, that the constellation here called the *Rikshas*, in the sense of the bright ones, would be homonymous in Sanskrit with the Bears. Remember also, that, apparently without rhyme or reason, the same constellation is called by Greeks and Romans *the Bear*, in the singular, *árktos* and *ursa*. There may be some similarity between that constellation and a waggon or wain, but there is hardly any to a bear.[1] Observe now the almost spontaneous

[1] The following facts would seem to qualify this statement. I find in the *Journal of the Asiat. Soc. of Bengal* (1865, p. 235), that the Karens call the Great Bear the Elephant. The pole star is a mouse crawling into the elephant's trunk. Mr. Tylor sent me a curious extract from Charlevoix, *Hist. et Descr. gén. de la Nouvelle-France*; Paris, 1744; vol. vi. p. 148: 'Ils donnent le nom d'Ours aux quatre premières de ce que nous appelons la grande Ourse; les trois, qui composent sa queue ou qui font le train du Chariot de David, sont, selon eux, trois Chasseurs, qui poursuivent l'Ours; et la petite étoile, qui

growth of mythology. The name *riksha* was applied to the bear in the sense of the bright fuscous animal, and in that sense it became most popular in the later Sanskrit, and in Greek and Latin. The same name, in the sense of the bright ones, had been applied by the Vedic poets to the stars in general, and more particularly to that constellation which, in the northern parts of India, was the most prominent. The etymological meaning of *riksha*, as simply the bright stars, was forgotten, the popular meaning of *riksha*, bear, was known to everybody. And thus it happened that when the Greeks had left their central home and settled in Europe, they retained the name of *Árktos* for the same unchanging stars, but not knowing why these stars had originally received that name, they ceased to speak of them as *árktoi*, or many bears, and spoke of them as the Bear, the Great

accompagne celle du milieu, est la Chaudière, dont le second est chargé. Les sauvages de l'Acadie nommoient tout simplement cette constellation et la suivante la grande et la petite Ourse ; mais ne pourroit-on pas juger que, quand ils parloient ainsi au sieur Lescarbot, ils ne répétoient que ce qu'ils avoient ouï dire à plusieurs François ?'

This last suspicion ought no doubt to be taken into account, but the following extract from Cotton Mather's *The Life and Death of the Rev. Mr. John Eliot*, 3rd. ed. London, 1694, p. 86, seems to confirm the statement: 'Their division of time is by sleeps, and moons, and winters ; and, by lodging abroad, they have somewhat observed the motions of the stars; among which it has been surprising unto me to find, that they have always called Charles' Wain by the name *Paukunnawaw*, or the Bear.' Roger Williams, also, in his *Key into the Language of America* (Narragansett Club), vol. i. p. 24, says: 'As the Greekes and other Nations, and our selves call the Seven Starres (or Charles Waine) the Beare, so doe they *Mosk* or *Paukunnawaw*, the Beare.' Lastly, Cranz, in his *Grönland* (Barby, 1765, p. 294), says: 'Den Sternen geben sie auch besondere Namen. *Ursa major* heisst bei ihnen *Tukto*, das Rennthier ; die Siebensterne *Kellukhuset*, d. i. einige Hunde, die einen Bären hetzen, und nach denselben rechnen sie die Nachtzeiten.'

Bear, adding a bearward, the *Arcturus* (*οὖρος*, ward),[1] and in time even a Little Bear. Thus the name of the Arctic regions rests on a misunderstanding of a name framed thousands of years ago in Central Asia; and the surprise with which many a thoughtful observer has looked at these seven bright stars, wondering why they were ever called the Bear, is removed by a reference to the early annals of human speech.

On the other hand, the Hindus also forgot the original meaning of *ṛiksha*. It became a mere name, apparently with two meanings, star and bear. In India, however, the meaning of bear predominated, and as *ṛiksha* became more and more the established name of the animal, it lost in the same degree its connection with the stars. So when, in later times, their Seven Sages had become familiar to all under the name of the Seven *Ṛishis*, the seven *Ṛikshas*, being unattached, gradually drifted towards the Seven *Ṛishis*, and many a fable sprang up as to the seven poets dwelling in the seven stars. The Turks, on the contrary, being a race of nomadic robbers, saw in the seven stars seven robbers watching for the two horns of the Little Bear, and therefore called the Great Bear *Jeti-qaraqči*, i.e. the Seven Robbers.[2] Such is the origin of myths.

The only doubtful point in the history of the myth of the Great Bear is the uncertainty which attaches

[1] Cf. *θυράρος*, a door-ward; Goth. *daura-wards*; *ἐπίουρος*, overseer; *φρουρά*, watch; Latin, *vereor*.

[2] Schott, *Zeitschrift der Deutschen Morgenl. Gesellschaft*, 1879, p. 543.

to the exact etymological meaning of *riksha*, bear. We do not see why of all other animals the bear should have been called the bright animal.[1] It is true that the reason of many a name is beyond our reach, and that we must frequently rest satisfied with the fact that such a name is derived from such a root, and therefore had originally such a meaning. The bear was the king of beasts with many northern nations, who did not know the lion; and it would be equally difficult to say why the ancient Germans called him *Goldfusz*, golden-footed. But even if the derivation of *riksha* from ar*k* had to be given up, the later chapters in the history of the word would still remain the same. We should have *riksha*, star, derived from ar*k*, to shine, mixed up with *riksha*, bear, derived from some other root, such as, for instance, ar*s* or *ris*, to hurt; but the reason why certain stars were afterwards conceived as bears would not be affected by this. It should also be stated that the bear is little known in the Veda. In the two passages of the Rigveda where *riksha* occurs, it is explained by Sâya*n*a, in the sense of hurtful and of fire, not in that of bear. In the later literature, however, *riksha*, bear, is of very common occurrence.

Another name of the Great Bear, or originally the Seven Bears, or really the seven bright stars, is *Septemtriones*. The two words which form the name are occasionally used separately; for instance, '*quas nostri septem soliti vocitare triones*.'[2] Varro (*L. L.* vii. 73–75), in a passage which is not very clear, tells us that

[1] See, however, Welcker's remarks on the wolf in his *Griechische Götterlehre*, p. 64.

[2] Arat. in *N. D.* ii. 41, 105.

triones was the name by which, even at his time, ploughmen used to call oxen when actually employed for ploughing the earth.[1] If we could quite depend on the fact that oxen were ever called *triones*, we might accept the explanation of Varro, and should have to admit that at one time the seven stars were conceived as seven oxen. But as a matter of fact, *trio* is never used in this sense, except by Varro, for the purpose of an etymology; nor are the seven stars ever again spoken of as seven oxen, but only as 'the oxen and the shaft,' *boves et temo*, a much more appropriate name. *Boôtes*, too, the ploughman or cow-driver, given to the same star which before we saw called *Arcturus*, or bear-keeper, would only imply that the waggon (*hámaxa*) was conceived as drawn by two or three oxen, but not that all the seven stars were ever spoken of as oxen.[2] Though, in matters of this kind, it is impossible to speak very positively, it seems not improbable that the name *triones*, which certainly cannot be derived from *terra*, may be an old name for star in general. We saw that the stars

[1] 'Triones enim boves appellantur a bubulcis etiam nunc maxume quom arant terram; e quis ut dicti valentes *glebarii* qui facile proscindunt glebas, sic omnis qui terram arabant a terra *terriones*, unde *triones* ut dicerentur e detrito.' In another place Varro says: 'Possunt *triones* dici septem quod ita sitæ stellæ ut terna trigona faciant.' See also Festus, and Gellius, ii. 21, 7. A curious coincidence occurs in Chinese, where, as Chalmers states (*Origin of the Chinese*, p. 23), the *septem triones* are represented as seven stars making three triangles. In Bask the Great Bear is simply called the Seven Stars (*Légendes du Pays Basque*, par M. Cerguand) (*Extrait du Bulletin de la Société Ramond*, Octobre, 1875).

[2] Spenser, in the *Fairy Queen*, 1, 2, writes:

'By that the northern waggoner had set
His sevenfold teme behind the steadfast starre.'

in Sanskrit were called star-as, the strewers of light; and the Latin *stella* is but a contraction of *sterula*. The English *star*, the German *Stern*, come from the same source. But besides *star*, we find in Sanskrit another name for star, namely, târâ, where the initial s of the root is lost. Such a loss is by no means unfrequent,[1] and *trio*, in Latin, might therefore represent an original *strio*, star. The name *strio*, star, having become obsolete, like *riksha*, the *Septentriones* remained a mere traditional name; and if, as Varro tells us, there was a vulgar name for ox in Latin, namely, *trio*, which then would have to be derived from *tero*, to pound, the peasants speaking of the *Septem triones*, the seven stars, would naturally imagine themselves speaking of seven oxen.

Boves et Temo.

But as it has been doubted that the seven stars ever suggested by themselves the picture of seven animals, whether bears or cows, I equally question that the seven were ever spoken of as *temo*, the shaft. Varro says they were called '*boves et temo*,' 'oxen and shaft,' but not that they were called both oxen and shaft. We can well imagine the four stars being taken for oxen, and the three for the shaft; or again, the four stars being taken for the cart, one star for the shaft, and two for the oxen. No one, however, could ever have called the seven together the shaft. But then it might be objected that *temo*, in Latin, means not only shaft, but carriage, and should

[1] See Kuhn, *Zeitschrift*, iv. 4 *seq*. *Torus* is connected with *sternere*, *tonare* with Sk. stan, *στένω*.

be taken as an equivalent of hámaxa. This might be, only it has never been shown that *temo* in Latin meant a carriage. Varro,[1] no doubt, affirms that it was so, but we have no further evidence. For if Juvenal says (*Sat.* iv. 126), '*De temone Britanno excidet Arviragus*,' this really means from the shaft, because it was the custom of the Britons to stand fighting on the shafts of their chariots.[2] And in the other passages,[3] where *temo* is supposed to mean car in general, it only means our constellation, which can in no wise prove that *temo* by itself ever had the meaning of car.

Temo stands for *tegmo*, and is derived from the root taksh, which likewise yields *tignum*, a beam. In French, too, *le timon* is never a carriage, but the shaft, the German *Deichsel*, the Anglo-Saxon *thîxl* or *thîsl*,[4] words which are themselves, in strict accordance with Grimm's law, derived from the same root (tvaksh, or taksh) as *temo*. The English *team*, on the contrary, has no connection whatever with *temo*

[1] *L. L.* vii. 75: 'Temo dictus a tenendo, is enim continet jugum. Et plaustrum appellatum, a parte totum, ut multa.'

[2] Cæs. *B. G.* iv. 33, v. 16.

[3] Stat. *Theb.* i. 692: 'Sed jam temone supino Languet hyperboreæ glacialis portitor Ursæ.'

Stat. *Theb.* i. 370: 'Hyberno deprensus navita ponto, Cui neque temo piger, neque amico sidere monstrat Luna vias.'

Cic. *N. D.* ii. 42: '(Vertens Arati carmina) Arctophylax, vulgo qui dicitur esse Bootes, Quod quasi temone adjunctam præ se quatit Arcton.'

Ovid, *Met.* x. 447: 'Interque triones Flexerat obliquo plaustrum temone Bootes.'

Lucan, lib. iv. v. 523: 'Flexoque Ursæ temone paverent.'

Propert. iii. 5, 35: 'Cur serus versare *boves et plaustra* Bootes.'

[4] In A.S. *thîsl* is used as a name of the constellation of Charles's Wain; like *temo*.

or *timon*, but comes from the Anglo-Saxon verb *teôn*, to draw, the German *ziehen*, the Gothic *tiuhan*, the Latin *duco*. It means *drawing*, and a team of horses means literally a draught of horses, a line of horses, *ein Zug Pferde*. The verb *teôn* (*teón*, *teáh*, *tugon*, *togen*), however, like the German *ziehen*, had likewise the meaning of bringing up, or rearing; and as in German *ziehen*, *Zucht*, and *züchten*, so in Anglo-Saxon *team* was used in the sense of issue, progeny; *teamian* (in English, for distinctness sake, spelt *to teem*) took the sense of producing, propagating, and lastly of abounding.[1]

Walnut.

According to the very nature of language, mythological misunderstandings such as that which gave rise to the stories of the Great Bear must be more frequent in ancient than in modern dialects. Nevertheless, the same mythological accidents will happen even in modern French and English. To speak of the seven bright stars, the *Ri*kshas, as the Bear, is no more than if in speaking of a *walnut* we were to imagine that it had anything to do with a *wall*. *Walnut* is the Icel. *val-hnot*, in A.S. **wealh-hnut*, in German *Wälsche Nuss*. *Wälsch* in German means originally foreigner, barbarian, and was especially applied by the Germans to the Italians. Hence Italy is to the present day called *Wälschland* in German. The Saxon invaders gave the same name to the Celtic inhabitants of the British Isles, who are called *wealh*

[1] Prof. Skeat, in his *Etymological Dictionary*, connects *team* in both senses with Goth. *taujan*, Mod. Germ. *zauen*, Sk. *du*, as in *duvas*, Mod. Germ. *Zauber*.

in Anglo-Saxon (plur. *wealas*). Hence the *walnut* meant originally the foreign nut. In Lituanian the walnut goes by the name of the 'Italian nut,' in Russian by that of 'Greek nut.'[1] What Englishman, in speaking of *walnut*, thinks that it means foreign or Italian nut? But for the accident that walnuts are no wall fruit, I have little doubt that by this time schoolmasters would have insisted on spelling the word with two *l*'s, and that many a gardener would have planted his walnut trees against the wall.

Jerusalem Artichokes.

There is a soup called Palestine soup. It is made, I believe, of artichokes called *Jerusalem artichokes*, but the Jerusalem artichoke is so called from a mere misunderstanding. The artichoke, being a kind of sunflower, was called in Italian *girasole*, from the Latin *gyrus*, circle, and *sol*, sun. Hence Jerusalem artichokes and Palestine soups![2]

La Tour sans Venin.

One other instance may here suffice, because we shall have to return to this subject of modern mythology. One of the seven wonders of Dauphiny in

[1] Pott, *E. F.* ii. 127: 'Itóliskas rĕssutys; Gréczkoĭ orjech.' The German *Lambertsnuss* is *nux Lombardica*. Instead of walnut we find *welshnut*, *Philos. Transact.* xviii. p. 819, and *walshnut* in Gerarde's *Herbal*. In the Index to the *Herbal*, however, walnut is spelt with two *l*'s, and classed with wallflower.

[2] Similar instances in Grimm, *Deutsche Gr.* ii. 548; iii. 558. Förstemann, 'Ueber Deutsche Volksetymologie' (Kuhn's *Zeitschrift*, i. p. 1). Koch, *Histor. Grammatik der Englischen Sprache*, vol. iii. p. 161. See *infra*, p. 653.

France is *la Tour sans venin*,[1] the Tower without poison, near Grenoble. It is said that poisonous animals die as soon as they approach it. Though the experiment has been tried, and has invariably failed, yet the common people believe in the miraculous power of the locality as much as ever. They appeal to the name of *la Tour sans venin*, and all that the more enlightened among them can be made to concede is that the tower may have lost its miraculous character in the present age, but that it certainly possessed it in former days. The real name, however, of the tower and of the chapel near it is *San Verena* or *Saint Vrain*. This became *san veneno*, and at last *sans venin*.

Charis.

But we must return to ancient mythology. There is a root in Sanskrit, GHAR, which, like ark, means to be bright and to make bright.[2] It was originally used of the glittering of fat and ointment. This earliest sense is preserved in passages of the Veda, where the priest is said to brighten up the fire by sprinkling butter on it. It never means sprinkling in general, but always sprinkling with a bright fatty substance (*beglitzern*).[3] From this root we have ghṛ́ta, the modern ghee, melted butter, and in general anything fat (*Schmalz*), the fatness of the

[1] Brosses, *Formation mécanique des Langues*, ii. 133.

[2] Cf. Kuhn's *Zeitschrift*, i. 154, 566; iii. 346 (Schweizer), iv. 354 (Pictet).

[3] Rv. ii. 10, 4: '*Gígharmy agnírm havíshâ ghriténa*,' 'I anoint or brighten up the fire with oblations of fat.'

land and of the clouds. Fat, however, means also bright, and hence the Dawn is called ghritápratîkâ, bright-faced. Again, the fire claims the same name, as well as ghritánirnig, with garments dripping with fat, or with brilliant garments. The horses of Agni or fire, too, are called ghritápṛishthâh, literally horses whose backs are covered with fat; but, according to the commentator, well fed and shining. The same horses are called vîtapṛishtha, with beautiful backs, and ghritasnâh, bathed in fat, glittering, bedewed. Other derivatives of this root ghar are ghriná,[1] heat of the sun; in later Sanskrit ghrinâ, warmth of the heart or pity, but likewise heat or contempt; ghríni,[2] the burning heat of the sun; gharmá, heat in general, also anything that is hot, the sun, the fire, warm milk, and even the kettle. It can be identified with Greek *thermós*, Latin *formus*, and with English *warm*.

Instead of ghar we also find the root har, a slight modification of the former, and having the same meaning. This root has given rise to several derivatives. Two very well-known derivatives are hári and harít, both meaning originally bright, resplendent. Now let us remember that though occasionally both the Sun and the Dawn are conceived by the Vedic poets

[1] Ghriná means heat or summer. Rv. x. 37, 10: 'Sám hemâ sám ghrinéna,' 'Be thou propitious to us with winter and summer.'

[2] Ghrini means heat, sunshine. Rv. vi. 16, 38: 'úpa kkhâyâm iva ghríner áganma sárma te vayám,' 'As from heat into shade we went to thee for refuge.'

In Greek χλιαίνω means I warm; χλίω, I become warm, I melt, I am soft or delicate; χλιαρός means warm, lukewarm. In Anglo-Saxon we have *glî-mo*, gleam.

as themselves horses,[1] that is to say, as racers, it became a more familiar conception of theirs to speak of the Sun and the Dawn as drawn by horses. These horses are very naturally called hári, or harít, bright and brilliant; and many similar names, such as aruṇá, arushá, rohít, &c.,[2] are applied to them, all expressive of brightness of colour in its various shades. After a time these adjectives became substantives. Just as hariṇâ, from meaning bright brown, came to mean the antelope, as we speak of a bay instead of a bay horse, the Vedic poets spoke of the Harits as the horses of the Sun and the Dawn, of the two Haris as the horses of Indra, of the Rohits as the horses of Agni or fire. After a time the etymological meaning of these words was lost sight of, and hari and harit became traditional names for the horses which either represented the Dawn and the Sun, or were supposed to be yoked to their chariots. When the Vedic poet says, 'The Sun has yoked the Harits for his course,' what did that language originally mean? It meant no more than what was manifest to every eye, namely, that the bright rays of light which are seen at dawn before sunrise, gathered in the east, rearing up to the sky, and bounding forth in all directions with the quickness of lightning, draw forth the light of the sun, as horses draw the car of a warrior. But who can keep the reins of language? The bright ones,

[1] M. M.'s *Essay on Comparative Mythology*, p. 82; *Chips*, ii. 134. *Böhtlingk-Roth, Wörterbuch*, s. v. 'aśva.'

[2] Cf. M. M.'s *Essay on Comparative Mythology*, pp. 81-83. *Chips*, ii. 133-136.

the Harits, run away like horses, and very soon they who were originally themselves the dawn, or the rays of the Dawn, are recalled to be yoked as horses to the car of the Dawn. Thus we read (Rigveda, vii. 75, 6), 'The bright brilliant horses are seen, bringing to us the shining Dawn.'

If it be asked how it came to pass that rays of light should be spoken of as horses, the most natural answer would be that it was a poetical expression such as any one might use. But if we watch the growth of language and poetry, we find that many of the later poetical expressions rest on the same metaphorical principle which we considered before as so important an agent in the original formation of nouns, and that they were suggested to later poets by earlier poets, i. e. by the framers of the very language which they spoke. Thus in our case we can see that the same name which was given to the flames of fire, namely, vahni, was likewise used as a name for horse, vahni being derived from a root vah, to carry along. There are several other names which rays of light and horses share in common, so that the idea of horse would naturally ring through the mind whenever these names for rays of light were touched. And here we are once again in the midst of mythology; for all the fables of Helios, the Sun, and his horses, flow irresistibly from this source.

But more than this. Remember that one of the names given to the horses of the Sun was Harit; remember also that originally these horses of the Sun were intended for the rays of the Dawn, or, if you like, for the Dawn itself. In some passages the

Dawn is simply called aśvâ, the mare, originally the racing light. Even in the Veda, however, the Harits are not always represented as mere horses, but assume occasionally, like the Dawn, a more human aspect. Thus (vii. 66, 15) they are called the Seven Sisters, and in another passage (ix. 86, 37) they are represented with beautiful wings. Let us now see whether we can find any trace of these Harits or bright ones in Greek mythology, which, like Sanskrit, is but another dialect of the common Aryan mythology. If their name exists at all in Greek, it could only be under the form of *Charis*, *Charites*. The name, as you know, exists, but what is its meaning? It never means a horse. The name never passed through that phase in the minds of the Greek poets which is so familiar in the poetry of the Indian bards. It retained its etymological meaning of lustrous brightness, and became, as such, the name of the brightest brightness of the sky, of the dawn. In Homer, *Charis* is still used as one of the many names of *Aphrodite*, and, like Aphrodite, she is called the wife of *Hephæstos*.[1] *Aphrodite*, the sea-born, was originally the dawn, the most lovely of all the sights of nature, and hence very naturally raised in

[1] *Il.* xviii. 382:

τὴν δὲ ἴδε προμολοῦσα Χάρις λιπαροκρήδεμνος
καλὴ τὴν ὤπυιε περικλυτὸς Ἀμφιγυήεις.

In the *Odyssey*, the wife of Hephæstos is Aphrodite; and Nägelsbach, not perceiving the synonymous character of the two names, actually ascribed the passage in *Od.* viii. to another poet, because the system of names in Homer, he says, is too firmly established to allow of such variation. He likewise considers the marriage of Hephæstos as purely allegorical. (*Homerische Theologie*, p. 114.)

the Greek mind to the rank of goddess of beauty and love. As the Dawn is called in the Veda Duhitâ Divaḥ, the daughter of Dyaus, *Charis*, the Dawn, is to the Greeks the daughter of *Zeus*. One of the names of Aphrodite, *Argynnis*, which the Greeks derived from a name of a sacred place near the *Cephissus*, where *Argynnis*, the beloved of *Agamemnon*, had died, has been identified[1] with the Sanskrit arguni, the bright, the name of the Dawn. In progress of time the different names of the Dawn ceased to be understood, and *Eos*, Ushas, as the most intelligible of them, became in Greece the chief representative of the deity of the morning, drawn, as in the Veda, by her bright horses. *Aphrodite*, the sea-born, also called *Enalia*[2] and *Pontia*, became the goddess of beauty and love, though she was afterwards degraded by an admixture of Syrian mythology. *Charis*, on the contrary, was merged in the *Charites*,[3] who instead of being, as in India, the horses of the Dawn, were changed by an equally natural process into the attendants of the bright gods, and particularly of Zeus[4] and Aphrodite, whom 'they wash at

[1] Sonne, in Kuhn's *Zeitschrift*, x. 350. Rigveda, i. 49, 3. Arguna, a name of Indra, mentioned in the Brâhmanas, &c.

[2] Cf. Âpyâ yóshâ, Rigveda, x. 10, 4; ápyâ yóshanâ, 11, 2.

[3] Kuhn, *Zeitschrift*, i. 518, x. 125. The same change of one deity into many took place in the case of the *Moira*, or fate. The passages in Homer where more than one *Moira* are mentioned, are considered as not genuine (*Od.* vii. 197, *Il.* xxiv. 49); but Hesiod and the later poets are familiar with the plurality of the Moiras. See Nägelsbach, *Nachhomerische Theologie*, p. 150. Welcker, *Griechische Götterlehre*, p. 53.

[4] Phidias represented the gods in the Olympic temple in the following order: *ἀναβεβηκὼς ἐπὶ ἅρμα Ἥλιος καὶ Ζεύς τέ ἐστι καὶ Ἥρα, παρὰ δὲ αὐτὸν Χάρις· ταύτης δὲ Ἑρμῆς ἔχεται, τοῦ Ἑρμοῦ δὲ Ἑστία· μετὰ δὲ τὴν Ἑστίαν Ἔρως ἐστὶν ἐκ θαλάσσης Ἀφροδίτην ἀνιοῦσαν ὑποδεχόμενος· τὴν*

Paphos and anoint with oil,'[1] as if in remembrance of their descent from the root ghar, which, as we saw, meant to anoint, to render brilliant by oil.[2]

It has been considered a fatal objection to the history of the word *Charis*, as here given, that in Greek it would be impossible to separate *Charis* from other words of a more general meaning. 'What shall we do,' says Curtius,[3] 'with *cháris, chará, chaírô, charízomai, charíeis*?' Why, it would be extraordinary if such words did not exist, if the root ghar had become withered as soon as it had produced this one name of *Charis*. These words which Curtius enumerates are nothing but collateral offshoots of the same root which produced the Harits in India and *Charis* in Greece. In Sanskrit, too, we cannot separate haryati, from harit, yet the one means to like, like *chaírein*, in Greek, the other means the horses of the Dawn, like *Charis*, the Dawn. One of the derivatives of the root har was carried off by the stream of mythology, the others remained on their native soil. Thus the root dyu or div gives rise among others to the name of *Zeus*, in Sanskrit Dyaus; but this is no reason why the same word should not be used in the original sense of heaven, and produce other nouns expressive of light, day, and similar notions. The very word which in most Slavonic languages appears

δὲ Ἀφροδίτην στεφανοῖ Πειθώ. Ἐπείργισται δὲ καὶ Ἀπόλλων σὺν Ἀρτέμιδι, Ἀθηνᾷ τε καὶ Ἡρακλῆς, καὶ ἤδη τοῦ βάθρου πρὸς τῷ πέρατι Ἀμφιτρίτη καὶ Ποσειδῶν, Σελήνη τε ἵππον ἐμοὶ δοκεῖν ἐλαύνουσα. Paus. v. 11. 8.

[1] *Od.* vii. 364.

[2] In German mythology the legends of *Gerda*, the beloved of *Freyr*, also some of the *Hilda* stories, seem to flow from the same source.

[3] Curtius, *G. E.* i. 97.

in the sense of brightness, has in Illyrian, under the form of *zora*, become the name of the Dawn.[1] Are we to suppose that *Charis* in Greek meant first grace, beauty, and was then raised to the rank of an abstract deity? It would be difficult to find another such deity in Homer, originally a mere abstract conception,[2] and yet made of such flesh and bone as *Charis*, the wife of *Hephæstos*. Or shall we suppose that *Charis* was first, for some reason or other, the wife of Hephæstos, and that her name afterwards dwindled down to mean splendour[3] or charm in general; so that another goddess, Athene, could be said to shower charis or charms upon a man? To this, too, I doubt whether any parallel could be found in Homer. Everything, on the contrary, is clear and natural, if we admit that from the root ghar or har, to be fat, to be glittering, was derived, besides harit, the bright horse of the Sun in Sanskrit, and Charis, the bright Dawn in Greece, *cháris* meaning brightness and fatness, then gladness and pleasantness in general, according to a metaphor so common in ancient language. It may seem strange to us that the *cháris*, that indescribable grace of Greek poetry and art, should come from a root meaning to be fat, to be greasy. Yet *liparós*, too, meant fat and oily before it meant lovely. As fat and greasy infants grow into 'airy, fairy Lilians,' so do words and ideas. The Psalmist (cxxxiii. 2) does not shrink from even bolder metaphors. 'Behold, how good and how

[1] Pictet, *Origines*, i. 155; Sonne, Kuhn's *Zeitschrift*, x. 354.
[2] See Kuhn, *Herabholung des Feuers*, p. 17.
[3] Sonne, *l. c.* x. 355–6.

pleasant (*charíen*) it is for brethren to dwell together in unity! It is like the precious ointment upon the head that ran down upon the beard, even Aaron's beard: that went down to the skirts of his garments.'

After the Greek *châris* had grown, and assumed the sense of charm, such as it was conceived by the most highly-cultivated of races, no doubt it reacted on the mythological *Charis* and *Charites*, and made them the embodiment of all that the Greeks had learnt to call lovely and graceful, so that in the end it is sometimes difficult to say whether *châris* is meant as an appellative or as a mythological proper name. Yet though thus converging in the later Greek, the starting-points of the two words were clearly distinct—as distinct at least as those of arka, sun, and arka, hymn of praise, which we examined before, or as Dyaus, Zeus, a masculine, and dyaus, a feminine, meaning heaven and day. Which of the two is older, the appellative or the proper name, *Charis*, the bright dawn, or *châris*, loveliness, is a question which it is impossible to answer, though Curtius declares in favour of the priority of the appellative. This is by no means so certain as he imagines. I fully agree with him when he says that no etymology of any proper name can be satisfactory which fails to explain the appellative nouns with which it is connected; but the etymology of *Charis* does not fail there. On the contrary, it lays bare the deepest roots from which all its cognate offshoots can be fully traced both in form and meaning, and it can defy the closest criticism, both of the student of

comparative philology and of the lover of ancient mythology.[1]

In the cases which we have hitherto examined, a mythological misunderstanding arose from the fact that one and the same root was made to yield the names of different conceptions; that after a time the two names were supposed to be one and the same, which led to the transference of the meaning of one to the other. There was one point of similarity between the *bright* bear and the *bright* stars to justify the ancient framers of language in deriving from the same root the names of both. But when the similarity in quality was mistaken for identity in substance, mythology became inevitable. The fact of the seven bright stars being called *Arktos*, and being supposed to mean the bear, I call mythology; and it is important to observe that this myth has no connection whatever with religious ideas, or with the so-called gods of antiquity. The legend of *Kallisto*, the beloved of *Zeus*, and the mother of Arkas, has nothing to do with the original naming of the stars. On the contrary, Kallisto was supposed to have been changed into the *Arktos*, or the Great Bear, because she was the mother of Arkas, that is to say, of the Arcadian or bear race; and her name, or that of her son, reminded the Greeks of their long-established name of the Northern constellation. Here, then, we have mythology apart from religion; we have a mythological misunderstanding very like in character to those which we alluded to in 'Palestine soup' and *La Tour sans venin*.

[1] See Appendix at the end of this Chapter, p. 484.

Cases of Poetical Metaphors.

Let us now consider another class of metaphorical expressions. The first class comprehended those cases which owed their origin to the fact that two substantially distinct conceptions received their name from the same root, differently applied. The metaphor had taken place simultaneously with the formation of the words; the root itself and its meaning had been modified in being adapted to the different conceptions that waited to be named. This is *radical metaphor*. If, on the contrary, we take such a word as *star* and apply it to *a flower*; if we take the word *ship* and apply it to a *cloud*, or *wing* and apply it to a *sail*; if we call the *sun horse*, or the *moon cow*; or with verbs, if we take such a verb as *to die* and apply it to the setting sun, or if we read,

> The sunlight *clasps* the earth,
> And the moonbeams *kiss* the sea,[1]

we have throughout *poetical metaphors*. These, too, are of very frequent occurrence in the history of early language and early thought.

The Golden-handed Sun.

It was, for instance, a very natural idea for people who watched the golden beams of the sun playing as it were with the foliage of the trees, to speak of these outstretched rays as hands or arms. Thus we see that

[1] Cox, *Tales of the Gods and Heroes*, p. 55. *Mythology of Greece and Italy*, by Keightley, p. 9.

in the Veda,[1] Savitar, one of the names of the sun, is called *golden-handed*. Who would have thought that such a simple metaphor could ever have caused any mythological misunderstanding? Nevertheless, we find that the commentators of the Veda see in the name *golden-handed*, as applied to the Sun, not the golden splendour of his rays, but the gold which he carries in his hands, and which he is ready to shower on his pious worshippers. A kind of moral is drawn from the old natural epithet, and people are encouraged to worship the sun because he has gold in his hands to bestow on his priests. We have a proverb in German, '*Morgenstunde hat Gold im Munde*,' 'Morning-hour has gold in her mouth,' which is intended to inculcate the same lesson as

> Early to bed and early to rise,
> Makes a man healthy, and wealthy, and wise.

But the origin of the German proverb is mythological. It was the conception of the dawn as the golden light, some similarity like that between *aurum* and *aurora*, which suggested the proverbial or mythological expression of the 'golden-mouthed Dawn'—for many proverbs are chips of mythology. But to return to the golden-handed Sun. He was not only turned into a lesson, but he also grew into a respectable myth. Whether people failed to see the natural meaning of the golden-handed Sun, or whether they would not see it, certain it is that the early theolo-

[1] i. 22, 5: 'hiraṇyapâṇim ûtaye Savitâram upa hvaye.
i. 35, 9: 'hiraṇyapâṇiḥ Savitâ vikarshaṇiḥ ubhe dyâvâ-pṛithivî antar îyate.'
i. 35, 10: 'hiraṇyahasta.'

gical treatises of the Brahmans tell of the Sun as having cut his hand at a sacrifice, and the priests having replaced it by an artificial hand made of gold. Nay, in later times, the Sun, under the name of Savitar, becomes himself a priest, and a legend is told how at a sacrifice he cut off his hand, and how the other priests made a golden hand for him.

All these myths and legends which we have hitherto examined are clear enough; they are like fossils of the most recent period, and their similarity with living species is not to be mistaken. But if we dig somewhat deeper, the similarity is less palpable, though it may be traced by careful research. If the German god *Tyr*, whom Grimm identifies with the Sanskrit sun-god,[1] is spoken of as one-handed, it is because the name of the golden-handed Sun had led to the conception of the Sun with one artificial hand, and afterwards, by a strict logical conclusion, to a sun with but one hand. Each nation invented its own story how Savitar or *Tyr* came to lose his hand; and while the priests of India imagined that Savitar hurt his hand at a sacrifice, the sportsmen of the North told how *Tyr* placed his hand, as a pledge, into the mouth of the wolf, and how the wolf bit it off. Grimm compares the legend of *Tyr* placing his hand, as a pledge, into the mouth of the wolf, and thus losing it, with an Indian legend of Sûrya or Savitar, the Sun, laying hold of a sacrificial animal and losing his hand by its bite. This explanation is possible, but it wants confirmation, particularly as the one-handed

[1] *Deutsche Mythologie*, xlvii. p. 187.

German god *Tyr* has been accounted for in some other way. *Tyr* is the god of victory, as Wackernagel points out, and as victory can only be on one side, the god of victory might well have been thought of and spoken of as himself one-handed.[1]

It was a simple case of poetical metaphor if the Greeks spoke of the stars as the eyes of the night. But when they speak of Argos the all-seeing (*Panóptēs*), and tell of his body being covered with eyes, we have a clear case of mythology.

It is likewise perfectly intelligible when the poets of the Veda speak of the Maruts or storms as singers. This is no more than when poets speak of the music of the winds; and in German such an expression as 'The wind sings' (der Wind singt) means no more than the wind blows. But when the Maruts are called not only singers, but musicians—nay, wise poets in the Veda[2]—then again language has exceeded its proper limits, and has landed us in the realm of fables.

Although the distinction between *radical* and *poetical* metaphor is very essential, and helps us more than anything else toward a clear perception of the origin of fables, it must be admitted that there are cases where it is difficult to carry out this distinction. If modern poets call the clouds mountains, this is clearly poetical metaphor; for mountain, by itself, never means cloud. But when we see that in the Veda the clouds are constantly called parvata, and that parvata means, etymologically, knotty or

[1] *Schweitzer Museum*, i. 107.
[2] Rigveda, i. 19, 4; 38, 15; 52, 15. Kuhn, *Zeitschrift*, i. 521.

rugged, it is difficult to say positively whether in India the clouds were called mountains by a simple poetical metaphor, or whether both the clouds and the mountains were from the beginning conceived as full of ruggedness and undulation, and thence called parvata.[1] The result, however, is the same—namely, mythology; for if in the Veda it is said that the Maruts or storms make the mountains to tremble (i. 39, 5), or pass through the mountains (i. 116, 20), this, though meaning originally that the storms made the clouds shake, or passed through the clouds, came to mean, in the eyes of later commentators, that the Maruts actually shook the mountains and rent them asunder.

[1] See Rigveda-Sanhitá, translated by M. M., vol. i. p. 43.

APPENDIX TO CHAPTER IX.

DR. SONNE, in several learned articles published in Kuhn's *Zeitschrift* (x. 96, 161, 321, 401), has subjected my conjecture as to the identity of harit and *cháris* to the most searching criticism. On most points I fully agree with him, as he will see from the more complete statement of my views given in this Chapter; and I feel most grateful to him for much additional light which his exhaustive treatise has thrown on the subject. We differ as to the original meaning of the root ghar, which Dr. Sonne takes to be effusion or shedding of light, while I ascribe to it the meaning of glittering and fatness; yet we meet again in the explanation of such words as ghrinâ, pity; háras, wrath; hrini, wrath; hrinîte, he is angry. These meanings Dr. Sonne explains by a reference to the Russian *kraska*, colour; *krasnoĭ*, red, beautiful; *krasa*, beauty; *krasnjetĭ*, to blush; *krasovatĭsja*, to rejoice. Dr. Sonne is certainly right in doubting the identity of *chaírô* and Sanskrit hrish, the Latin *horreo*, and in explaining *chaírô* as the Greek form of ghar, to be bright and glad, conjugated according to the fourth class. Whether the Sanskrit haryati, he desires, is the Greek *thélei*, nay the Gothic *wiljan*, seems to me doubtful, though, no doubt, there are analogies in Greek *thermós* and Gothic *warmjan*.[1]

[1] See Brugmann, *Grundriss*, § 423.

Why Dr. Sonne should prefer to identify *cháris, cháritos* with the Sanskrit hári, rather than with harít, he does not state. Is it on account of the accent? I certainly think that there was a form *cháris*, corresponding to hári, and I should derive from it the accusative *chárin*, instead of *chárita*; also adjectives like *charíeis* (harivat). But I should certainly retain the base which we have in harít, in order to explain such forms as *cháris, cháritos*. That *cháris* in Greek ever passed through the same metamorphosis as the Sanskrit harít, that it ever to a Greek mind conveyed the meaning of horse, there is no evidence whatever. Greek and Sanskrit myths, like Greek and Sanskrit words, must be treated as co-ordinate, not as subordinate; nor have I ever, as far as I recollect, referred Greek myths or Greek words to Sanskrit as their prototypes. What I said about the *Charites* was very little. On page 81 of my *Essay on Comparative Mythology*, I said :—

> In other passages, however, they (the Harits) take a more human form; and as the Dawn, which is sometimes simply called asvâ, the mare, is well known by the name of the sister, these Harits also are called the Seven Sisters (vii. 66, 15); and in one passage (ix. 86, 37) they appear as the Harits with beautiful wings. *After this I need hardly say that we have here the prototype of the Grecian Charites.*

If on any other occasion I had derived Greek from Sanskrit myths, or, as Dr. Sonne expresses it, ethnic from ethnic myths, instead of deriving both from a common Aryan or pro-ethnic source, my words might have been liable to misapprehension.[1] But

[1] I ought to mention, however, that Mr. Cox, in the Introduction to his *Tales of the Gods and Heroes*, p. 67, has understood my words in

as they stand in my essay, they were only intended to point out that, after tracing the Harits to their most primitive source, and after showing how, starting from thence, they entered on their mythological career in India, we might discover there, in their earliest form, the mould in which the myth of the Greek *Charites* was cast, while such epithets as 'the sisters,' and 'with beautiful wings,' might indicate how conceptions that remained sterile in Indian mythology, grew up under a Grecian sky into those charming human forms which we have all learned to admire in the Graces of Hellas. That I had recognised the personal identity, if we may say so, of the Greek *Charis*, the Aphrodite, the Dawn, and the Sanskrit Ushas, the Dawn, will be seen from a short sentence towards the end of my essay, p. 86:

> He (*Eros*) is the youngest of the gods, the son of *Zeus*, the friend of the *Charites*; also the son of the chief *Charis, Aphrodite*, in whom we can hardly fail to discover a female *Eros* (an Ushâ, Dawn, instead of an Agni aushasya).

Dr. Sonne will thus perceive that our roads, even where they do not exactly coincide, run parallel, and that we work in the same spirit and with the same objects in view.

For other mythological developments of the root ghar, see *Biographies of Words*, p. 1, *Fors Fortuna*.

the same sense as Dr. Sonne. 'The horses of the sun,' he writes, 'are called Harits; and in these we have the prototype of the Greek *Charites*—an inverse transmutation, for while in the other instances the human is changed into a brute personality, in this the beasts are converted into maidens.'

CHAPTER X.

THE MYTHOLOGY OF THE GREEKS.

Contrast between Greek Culture and Greek Religion.

TO those who are acquainted with the history of Greece, and have learnt to appreciate the intellectual, moral, and artistic excellencies of the Greek mind, it has often been a subject of wonderment how such a nation could have accepted, could have tolerated for a moment, such a religion. What the inhabitants of the small city of Athens achieved in philosophy, in poetry, in art, in science, in politics, is known to all of us; and our admiration for them increases tenfold if, by a study of other literatures, such as the literatures of India, Persia, and China, we are enabled to compare their achievements with those of other nations of antiquity. The rudiments of almost everything, with the exception of religion, we, the people of Europe, the heirs to a fortune accumulated during twenty or thirty centuries of intellectual toil, owe to the Greeks; and, strange as it may sound, but few, I think, would gainsay it,—to the present day the achievements of these our distant ancestors and earliest masters, the songs of Homer, the dialogues of Plato, the speeches of Demosthenes, and the statues of Phidias stand, if

not unrivalled, at least unsurpassed by anything that has been achieved by their descendants and pupils. How the Greeks came to be what they were, and how, alone of all other nations, they opened almost every mine of thought that has since been worked by mankind; how they invented and perfected almost every style of poetry and prose which has since been cultivated by the greatest minds of our race; how they laid the lasting foundation of the principal arts and sciences, and in some of them achieved triumphs never since equalled, is a problem which neither historian nor philosopher has as yet been able to solve. Like their own goddess Athene, a people seems at Athens to spring full armed into the arena of history, and we look in vain to Egypt, Syria, or India for more than a few of the seeds that burst into such marvellous growth on the soil of Attica.

But the more we admire the native genius of Hellas, the more we feel surprised at the crudities and absurdities of what is handed down to us as their religion. Their earliest philosophers knew as well as we that the Deity, in order to be Deity, must be either perfect or nothing—that it must be one, not many, and without parts and passions; yet they believed in many gods, and ascribed to all of them, and more particularly to Jupiter, almost every vice and weakness that disgraces human nature. Their poets had an instinctive aversion to everything excessive or monstrous; yet they would relate of their gods what would make the most savage of the Red Indians creep and shudder:—how that Uranos was maimed by his son Kronos—how Kronos swallowed his own children,

and, after years of digestion, vomited out alive his whole progeny—how Apollo, their fairest god, hung Marsyas on a tree and flayed him alive—how Demeter, the sister of Zeus, partook of the shoulder of Pelops who had been butchered and roasted by his own father, Tantalus, as a feast for the gods. I will not add any further horrors, or dwell on crimes that have become unmentionable, but of which the most highly cultivated Greek had to tell his sons and daughters in teaching them the history of their gods and heroes.

Protests of Greek Philosophers.

It would indeed be a problem, more difficult than the problem of the origin of these stories themselves, if the Greeks, such as we know them, had never been startled by this, had never asked, How can these things be, and how did such stories spring up? But be it said to the honour of Greece,—although her philosophers did not succeed in explaining the origin of these religious fables, they certainly were, from the earliest times, shocked by them. Xenophanes, who lived, as far as we know, before Pythagoras, accuses [1] Homer and Hesiod of having ascribed to the gods everything that is disgraceful among men—stealing, adultery, and deceit. He remarks that [2] men seem to

[1] Πάντα θεοῖς ἀνέθηκαν Ὅμηρός θ' Ἡσίοδός τε,
ὅσσα παρ' ἀνθρώποισιν ὀνείδεα καὶ ψόγος ἐστίν. . . . .
Ὡς πλεῖστ' ἐφθέγξαντο θεῶν ἀθεμίστια ἔργα,
κλέπτειν μοιχεύειν τε καὶ ἀλλήλους ἀπατεύειν.
Cf. *Sextus Emp. adv. Math.* i. 289, ix. 193.

[2] Ἀλλὰ βροτοὶ δοκέουσι θεοὺς γεγενῆσθαι,
τὴν σφετέρην τ' αἴσθησιν ἔχειν φωνήν τε δέμας τε. . . . .
Ἀλλ' εἴτοι χεῖράς γ' εἶχον βόες ἠὲ λέοντες,

have created their gods, and to have given to them their own mind, voice, and figure; that the Ethiopians made their gods black and flat-nosed, the Thracians red-haired and blue-eyed—just as cows or lions, if they could but draw, would draw their gods like cows and lions. He himself declares, in the most unhesitating manner—and this nearly 600 years before our era—that 'God[1] is one, the greatest among gods and men, neither in form nor in thought like unto men.' He calls the battles of the Titans, the Giants, and Centaurs, the inventions of former generations[2] (*πλάσματα τῶν προτέρων*), and requires that the Deity should be praised in holy stories and pure strains.

Similar sentiments were entertained by most of the great philosophers of Greece. *Heraclitus* seems to have looked upon the Homeric system of theology, if we may so call it, as flippant infidelity. According to Diogenes Laertius,[3] Heraclitus declared that Homer, as well as Archilochus, deserved to be ejected from public assemblies and flogged. The same author

ἢ γράψαι χείρεσσι καὶ ἔργα τελεῖν ἅπερ ἄνδρες,
καί κε θεῶν ἰδέας ἔγραφον καὶ σώματ' ἐποίουν
τοιαῦθ' οἷόν περ καὐτοὶ δέμας εἶχον ὁμοῖον,
ἵπποι μέν θ' ἵπποισι, βόες δέ τε βουσὶν ὁμοῖα.

Cf. *Clem. Alex. Strom.* v. p. 601 C.

[1] *Εἷς θεὸς ἔν τε θεοῖσι καὶ ἀνθρώποισι μέγιστος,*
οὔ τι δέμας θνητοῖσι ὁμοίιος οὐδὲ νόημα.

Cf. *Clem. Alex.* ibid.

[2] Cf. *Isocrates*, ii. 38 (Nägelsbach, p. 45).

[3] *Τόν θ' Ὅμηρον ἔφασκεν ἄξιον ἐκ τῶν ἀγώνων ἐκβάλλεσθαι καὶ ῥαπίζεσθαι, καὶ Ἀρχίλοχον ὁμοίως* —Diog. Laert. ix. 1.
Ἠσέβησε εἰ μὴ ἠλληγόρισε, Ὅμηρος. Bertrand, *Les Dieux Protecteurs*, p. 143.

relates[1] a story that *Pythagoras* saw the soul of Homer in the lower world hanging on a tree, and surrounded by serpents, as a punishment for what he had said of the gods. No doubt the views of these philosophers about the gods were far more exalted and pure than those of the Homeric poets, who represented their gods as in many cases hardly better than men. But as religion became mixed up with politics, it was more and more dangerous to profess these sublimer views, or to attempt to explain the Homeric myths in any but the most literal sense. *Anaxagoras*, who endeavoured to give to the Homeric legends a moral meaning, and is said to have interpreted the names of the gods allegorically—nay, to have called Fate an empty name, was thrown into prison at Athens, from whence he only escaped through the powerful protection of his friend and pupil Pericles. *Protagoras*, another friend of Pericles,[2] was expelled from Athens, and his books were publicly burnt, because he had said that nothing could be known about the gods, whether they existed or no.[3] *Socrates*,

[1] Φησὶ δ' Ἱερώνυμος κατελθόντα αὐτὸν εἰς ᾅδου τὴν μὲν Ἡσιόδου ψυχὴν ἰδεῖν πρὸς κίονι χαλκῷ δεδεμένην καὶ τρίζουσαν, τὴν δ' Ὁμήρου κρεμαμένην ἀπὸ δένδρου καὶ ὄφεις περὶ αὐτὴν ἀνθ' ὧν εἶπον περὶ θεῶν.—Diog. Laert. viii. 21.

[2] Δοκεῖ δὲ πρῶτος, καθά φησι Φαβωρῖνος ἐν παντοδαπῇ ἱστορίᾳ, τὴν Ὁμήρου ποίησιν ἀποφήνασθαι εἶναι περὶ ἀρετῆς καὶ δικαιοσύνης· ἐπὶ πλέον δὲ προστῆναι τοῦ λόγου Μητρόδωρον τὸν Λαμψακηνόν, γνώριμον ὄντα αὐτοῦ, ὃν καὶ πρῶτον σπουδάσαι τοῦ ποιητοῦ περὶ τὴν φυσικὴν πραγματείαν.—Diog. Laert. ii. 11.

[3] Περὶ μὲν θεῶν οὐκ ἔχω εἰδέναι οὔθ' ὡς εἰσίν, οὔθ' ὡς οὐκ εἰσίν· πολλὰ γὰρ τὰ κωλύοντα εἰδέναι, ἥ τ' ἀδηλότης καὶ βραχὺς ὢν ὁ βίος τοῦ ἀνθρώπου. Διὰ ταύτην δὲ τὴν ἀρχὴν τοῦ συγγράμματος ἐξεβλήθη πρὸς Ἀθηναίων· καὶ τὰ βιβλία αὐτοῦ κατέκαυσαν ἐν τῇ ἀγορᾷ, ὑπὸ κήρυκος ἀναλεξάμενοι παρ' ἑκάστου τῶν κεκτημένων.—Diog. Laert. ix. 51. Cicero, *Nat. Deor.* i. 23, 63.

though he never attacked the sacred traditions and popular legends,[1] was suspected of being no very strict believer in the ancient Homeric theology, and he had to suffer martyrdom. After the death of Socrates greater freedom of thought was permitted at Athens in exchange for the loss of political liberty. Plato declared that many a myth had a symbolical or allegorical meaning; but he insisted, nevertheless, that the Homeric poems, such as they were, should be banished from his Republic.[2] Nothing can be more distinct and outspoken than the words attributed to *Epicurus*: 'The gods are indeed, but they are not as the many believe them to be. Not he is an infidel who denies the gods of the many, but he who fastens on the gods the opinions of the many.'[3]

In still later times an accommodation was attempted between mythology and philosophy. *Chrysippus* (died 207), after stating his views about the immortal gods, is said to have written a second book to show how these might be brought into harmony with the fables of Homer.[4]

And not philosophers only felt these difficulties about the gods as represented by Homer and Hesiod;

[1] Grote, *History of Greece*, vol. i. p. 504.

[2] Οὗτοι Ἡσίοδός τε, εἶπον, καὶ Ὅμηρος ἡμῖν ἐλεγέτην καὶ οἱ ἄλλοι ποιηταί· οὗτοι γάρ που μύθους τοῖς ἀνθρώποις ψευδεῖς συντιθέντες ἔλεγόν τε καὶ λέγουσιν.—Plat. *Polit.* β. 377 d. Grote, *History*, i. 593.

[3] Diog. Laert. x. 123. Ritter and Preller, *Historia Philosophiæ*, p. 419. Θεοὶ μὲν γάρ εἰσιν· ἐναργὴς δέ ἐστιν αὐτῶν ἡ γνῶσις· οἵους δ' αὐτοὺς οἱ πολλοὶ νομίζουσιν οὐκ εἰσίν· οὐ γὰρ φυλάττουσιν αὐτοὺς οἵους νομίζουσιν. ἀσεβὴς δ' οὐχ ὁ τοὺς τῶν πολλῶν θεοὺς ἀναιρῶν, ἀλλ' ὁ τὰς τῶν πολλῶν δόξας θεοῖς προσάπτων.

[4] 'In secundo autem libro Homeri fabulas accommodare voluit ad ea quæ ipse primo libro de diis immortalibus dixerit.'—Cic. *Nat. Deor.* i. 15. Bertrand, *Sur les Dieux Protecteurs* (Rennes, 1858), p. 38.

most of the ancient poets also were distressed by the same doubts, and constantly find themselves involved in contradictions which they are unable to solve. Thus, in the Eumenides of *Æschylus* (v. 640), the Chorus asks how Zeus could have called on Orestes to avenge the murder of his father, he who himself had dethroned his father and bound him in chains. *Pindar*, who is fond of weaving the traditions of gods and heroes into his songs of victory, suddenly starts when he meets with anything dishonourable to the gods. 'Lips,' he says,[1] 'throw away this word, for it is an evil wisdom to speak evil of the gods.' His criterion in judging of mythology would seem to have been very simple and straightforward, namely, that nothing can be true in mythology that is dishonourable to the gods. The whole poetry of *Euripides* oscillates between two extremes: he either taxes the gods with all the injustice and crimes they are fabled to have committed, or he turns round and denies the truth of the ancient myths because they relate of the gods what is incompatible with a divine nature. Thus, while in the Ion,[2] the gods, even Apollo, Jupiter, and Neptune, are accused of every

[1] *Olymp.* ix. 38, ed. Boekh: Ἀπό μοι λόγον τοῦτον, στόμα, ῥίψον· ἐπεὶ τό γε λοιδορῆσαι θεοὺς ἐχθρὰ σοφία.

[2] *Ion*, 444, ed. Paley:

Εἰ δ', οὐ γὰρ ἔσται, τῷ λόγῳ δὲ χρήσομαι,
δίκας βιαίων δώσετ' ἀνθρώποις γάμων,
σὺ καὶ Ποσειδῶν Ζεύς θ' ὃς οὐρανοῦ κρατεῖ,
ναοὺς τίνοντες ἀδικίας κενώσετε. . . . .
οὐκέτ' ἀνθρώπους κακοὺς
λέγειν δίκαιον, εἰ τὰ τῶν θεῶν κακὰ
μιμούμεθ', ἀλλὰ τοὺς διδάσκοντας τάδε.

Cf. *Herc. fur.* 339.

crime, we read in another play:[1] 'I do not think that the gods delight in unlawful marriages, nor did I ever hold or shall ever believe that they fasten chains on their hands, or that one is lord of another. For a god, if he is really god, has no need of anything: these are the miserable stories of poets!' Or, again[2]: '*If* the gods commit anything that is evil, they are no gods.'

These passages, to which many more might be added, will be sufficient to show that the more thoughtful among the Greeks were as much startled at their mythology as we are. They would not have been Greeks if they had not seen that those fables were irrational, if they had not perceived that the whole of their mythology presented a problem that required a solution at the hand of the philosopher. If the Greeks did not succeed in solving it, if they preferred a compromise between what they knew to be true and what they knew to be false, if the wisest among their wise men spoke cautiously on the subject or kept aloof from it altogether, let us remember that these myths, which we now handle as freely as the geologist his fossil bones, were then living things, sacred things, implanted by parents in the minds of

[1] *Herc. fur.* 1341, ed. Paley:

Ἐγὼ δὲ τοὺς θεοὺς οὔτε λέκτρ' ἃ μὴ θέμις
στέργειν νομίζω, δεσμά τ' ἐξάπτειν χεροῖν
οὔτ' ἰξίωσα πώποτ' οὔτε πείσομαι,
οὐδ' ἄλλον ἄλλου δεσπότην πεφυκέναι.
δεῖται γὰρ ὁ θεὸς, εἴπερ ἔστ' ὄντως θεὸς,
οὐδενός· ἀοιδῶν οἵδε δύστηνοι λόγοι.

See *Euripides*, ed. Paley, vol. i. Preface, p. xx.

[2] Eur. *Fragm. Bellerophon.* 300: εἰ θεοί τι δρῶσιν αἰσχρὸν, οὐκ εἰσὶν θεοί.

their children, accepted with an unquestioning faith, hallowed by the memory of the departed, sanctioned by the state, the foundation on which some of the most venerable institutions had been built up and established for ages. It is enough for us to know that the Greeks expressed surprise and dissatisfaction at these fables: to explain their origin was a task left to a more dispassionate age.

Ethical Interpretations.

The principal solutions that offered themselves to the Greeks, when inquiring into the origin of their mythology, may be classed under three heads, which I call *ethical*, *physical*, *historical*, according to the different objects which the original framers of mythology were supposed to have had in view.[1]

Seeing how powerful an engine was supplied by religion for awing individuals and keeping political communities in order, some Greeks imagined that the stories telling of the omniscience and omnipotence of the gods, of their rewarding the good and punishing the wicked, were invented by wise people of old for the improvement and better government of men.[2] This view, though extremely shallow, and supported by no evidence, was held by many among the ancients; and even Aristotle, though admitting, as we shall see, a deeper foundation of religion, was inclined to consider the mythological form of the Greek religion as

[1] Cf. Augustinus, *De Civ. Dei*, vii. 5: 'De paganorum secretiore doctrina physicisque rationibus.'

[2] Cf. Wagner, *Fragm. Trag.* iii. p. 102. Nägelsbach, *Nachhomerische Theologie*, pp. 435, 445.

invented for the sake of persuasion, and as useful for the support of law and order. Well might Cicero, when examining this view, exclaim, 'Have not those who said that the idea of immortal gods was made up by wise men for the sake of the commonwealth, in order that those who could not be led by reason might be led to their duty by religion, destroyed all religion from the bottom?'[1] Nay, it would seem to follow that if the useful portions of mythology were invented by wise men, the immoral stories about gods and men must be ascribed to foolish poets—a view, as we saw before, more than hinted at by Euripides.

Physical Interpretations.

A second class of interpretations may be comprehended under the name of *physical*, using that term in the most general sense, so as to include even what are commonly called *metaphysical* interpretations. According to this school of interpreters, it was the intention of the authors of mythology to convey to the people at large a knowledge of certain facts of nature, or certain views of natural philosophy, which they did in a phraseology peculiar to themselves or to the times they lived in, or, according to others, in a language that was to veil rather than to unveil the mysteries of their sacred wisdom. As all interpreters of this class, though differing on the exact original intention of each individual myth, agree in this, that no myth must be understood literally, their system of interpretation is best known under the name of

[1] Cic. *N. D.* i. 42, 118.

allegorical, allegorical being the most general name for that kind of language which says one thing but means another.[1]

So early a philosopher as *Epicharmus*,[2] the pupil of Pythagoras, declared that the gods were really the winds, the water, the earth, the sun, the fire, and the stars. Not long after him, *Empedocles* (about 444 B.C.) ascribed to the names of Zeus, Here, Aïdoneus, and Nestis, the meaning of the four elements, fire, air, earth, and water.[3] Whatever the philosophers of Greece successively discovered as the first principles of being and thought, whether the air of *Anaximenes*[4] (about 548), or the fire of *Heraclitus*[5] (about 503), or the Nous, the mind, of *Anaxagoras* (died 428), was gladly identified by them with Jupiter or other divine powers. Anaxagoras and his school are said to have explained the

[1] Cf. Müller, *Prolegomena*, p. 335, n. 6: ἄλλο μὲν ἀγορεύει, ἄλλο δὲ νοεῖ. The difference between a myth and an allegory has been simply but most happily explained by Professor Blackie, in his article on Mythology in *Chambers' Cyclopædia*: 'A myth is not to be confounded with an allegory; the one being an unconscious act of the popular mind at an early stage of society, the other a conscious act of the individual mind at any stage of social progress.'

[2] Stobæus, *Flor.* xci. 29:

Ὁ μὲν Ἐπίχαρμος τοὺς θεοὺς εἶναι λέγει
Ἀνέμους, ὕδωρ, γῆν, ἥλιον, πῦρ, ἀστέρας.

Cf. Bernays, *Rhein. Mus.* 1853, p. 280. Kruseman, *Epicharmi Fragmenta*, Harlemi, 1834.

[3] Plut. *de Plac. Phil.* i. 30: Ἐμπεδοκλῆς φύσιν μηδὲν εἶναι, μίξιν δὲ τῶν στοιχείων καὶ διάστασιν. γράφει γὰρ οὕτως ἐν τῷ πρώτῳ φυσικῷ.

Τέσσαρα τῶν πάντων ῥιζώματα πρῶτον ἄκουε·
Ζεὺς ἀργὴς Ἥρη τε, φερέσβιος ἠδ' Ἀϊδωνεύς,
Νῆστίς θ' ἣ δακρύοις τέγγει κρούνωμα βρότειον.

[4] Cic. *N. D.* i. 10. Ritter and Preller, § 27.

[5] Clem. Alex. Strom. v. p. 603 D. Ritter and Preller, § 38. Bernays, *Neue Bruchstücke des Heraklit*, p. 256: ἓν τὸ σοφὸν μοῦνον λέγεσθαι ἐθέλει, καὶ οὐκ ἐθέλει Ζηνὸς οὔνομα.

whole of the Homeric mythology allegorically. With them Zeus was mind, Athene, art; while *Metrodorus*, the contemporary of Anaxagoras, 'resolved not only the persons of Zeus, Here, and Athene, but also those of Agamemnon, Achilles, and Hector, into various elemental combinations and physical agencies, and treated the adventures ascribed to them as natural facts concealed under the veil of allegory.'[1]

Socrates declined this labour of explaining all fables allegorically as too arduous and unprofitable; yet he, as well as Plato, frequently pointed to what they called the *hypónoia*, the under-meaning, if I may say so, of the ancient myths.

There is a passage in the eleventh book of Aristotle's Metaphysics which has often been quoted[2] as showing the clear insight of that philosopher into the origin of mythology, though in reality it does not rise much above the narrow views of other Greek philosophers.

This is what Aristotle writes:—

> It has been handed down by early and very ancient people, and left, in the form of myths, to those who came after, that these (the first principles of the world) are the gods, and that the divine embraces the whole of nature. The rest has been added mythically, in order to persuade the many, and in order to be used in support of laws and other interests. Thus they say that the gods have a human form, and that they are like to some of the other living beings, and other things consequent on this, and similar to what has been said. If one separated out of these fables, and took only that first point, that they believed

[1] Syncellus, *Chron.* p. 149, ed. Paris. Ἑρμηνεύουσι δὲ οἱ Ἀναξαγόρειοι τοὺς μυθώδεις θεούς, νοῦν μὲν τὸν Δία, τὴν δὲ Ἀθηνᾶν τέχνην. Grote, vol. i. p. 563. Ritter and Preller, *Hist. Phil.* § 48. Lobeck, *Aglaoph.* p. 156. Diog. Laert. ii. 11.

[2] Bunsen, *Gott in der Geschichte*, vol. iii. p. 532. Ar. *Met.* xi. 8, 19.

the first essences to be gods, one would think that it had been divinely said, and that while every art and every philosophy was probably invented ever so many times and lost again, these opinions had, like fragments of them, been preserved until now. So far only is the opinion of our fathers, and that received from our first ancestors, clear to us.

The attempts at finding in mythology the remnants of ancient philosophy, have been carried on in different ways from the days of Socrates to our own time. Some writers thought they discovered astronomy, or other physical sciences, in the mythology of Greece: and in our own days the great work of Creuzer, 'Symbolik und Mythologie der alten Völker' (1819–21), was written with the one object of proving that Greek mythology was composed by priests, born or instructed in the East, who wished to raise the semi-barbarous races of Greece to a higher civilisation and a purer knowledge of the Deity. There was, according to Creuzer and his school, a deep mysterious wisdom, and a monotheistic religion veiled under the symbolical language of mythology, which language, though unintelligible to the people, was understood by the priests, and may be interpreted even now by the thoughtful student of mythology.

Historical Interpretations.

The third theory on the origin of mythology I call the *historical*. It goes generally by the name of *Euhemerus*, though we find traces of it both before and after his time. Euhemerus was a contemporary of Alexander, and lived at the court of Cassander, in Macedonia, by whom he is said to have been sent out

on an exploring expedition. Whether he really explored the Red Sea and the southern coasts of Asia we have no means of ascertaining. All we know is that, in a religious novel which he wrote, he represented himself as having sailed in that direction to a great distance, until he came to the island of Panchæa. In that island he said that he discovered a number of inscriptions (*ἀναγραφαί*, hence the title of his book, *Ἱερὰ Ἀναγραφή*) containing an account of the principal gods of Greece, but representing them, not as gods, but as kings, heroes, and philosophers, who after their death had received divine honours among their fellow-men.[1]

Though the book of Euhemerus itself and its translation by Ennius are both lost, and we know little either of its general spirit or of its treatment of individual deities, such was the sensation produced by it at the time, that Euhemerism has become the recognised title of that system of mythological interpretation which denies the existence of divine beings, and reduces the gods of old to the level of men. A distinction, however, must be made between the complete and systematic denial of all gods, which is ascribed to Euhemerus, and the partial application of his principles which we find in many Greek writers. Thus Hecatæus, a most orthodox Greek,[2] declares that Geryon of Erytheia was really a king of Epirus, rich

[1] 'Quid? qui aut fortes aut claros aut potentes viros tradunt post mortem ad deos pervenisse, eosque esse ipsos quos nos colere, precari, venerarique soleamus, nonne expertes sunt religionum omnium? Quæ ratio maxima tractata ab Euhemero est, quam noster et interpretatus et secutus est præter cæteros Ennius.'—Cic. *De Nat. Deor.* i. 42.

[2] Grote, *History of Greece*, vol. i. p. 526.

in cattle; and that Cerberus, the dog of Hades, was a certain serpent inhabiting a cavern on Cape Tænarus.[1] Ephorus converted Tityos into a bandit, and the serpent Python[2] into a rather troublesome person, Python by name, *alias* Dracon, whom Apollo killed with his arrows. Herodotus tells us that the priests of Jupiter at Thebes informed him that two priestesses had been carried off from Thebes by Phenicians, and sold as slaves in Libya and in Greece, and that they had founded oracles there. He then continues that at Dodona he heard that two black doves had come from Thebes in Egypt, one going to Libya, the other to Dodona; that the dove at Dodona settled in an oak, and declared in a human voice that an oracle of Zeus should be founded on the spot; that the people of Dodona took this as a divine message, and acted accordingly. Putting these two stories together, Herodotus concludes that both refer to the same fact, that two Egyptian priestesses had been carried off by Phenicians as slaves, had founded the sanctuaries of Zeus both at Dodona and in Libya; and he adds that, probably, they were called doves by the people of Dodona because they were strangers and seemed to twitter like birds, and, when they had learnt to speak better, it was said that the dove spoke with a human voice; but he adds, in a truly rationalistic spirit, how could a real dove have spoken with a human voice? and he explains her black colour as meaning no more than that she came from Egypt.

[1] Strabo, ix. p. 422. Grote, *H. G.* i. p. 552.

[2] Possibly connected with the Vedic Ahir Budhnya. See Benfey, *Göttinger Gel. Anz.*, 1871, p. 322.

Now it is important to remark that Herodotus, though he was at Dodona, tells us nothing of any doves being kept there in his time, nor of priestesses called Peleiades. All this seems to belong to a later time. Strabo (*Fragm.* lib. vii. 1, 2) knew of doves used for the purposes of divination at Dodona. But he too, in a rationalising spirit, remarks that possibly the priestesses there prophesied according to the peculiar flight of doves. And he gives a still better explanation by saying that, in the language of the Molossians and Thesprotians, old women were called *peliae*, old men *pelioi*; and that, therefore, the famous *Peleiades* at Dodona may have been simply those old women officiating at the oracle. Pausanias, in the 2nd century, mentions the doves (*Peleiae*) and the oracles from the oak at Dodona (vii. 21, 2); and in x. 12, 10 he, too, takes the *Peleiae* as priestesses at Dodona, divinely inspired, yet not called *Sibyllæ*. They were the first among women, he says, who sang

> Ζεὺς ἦν, Ζεύς ἐστι, Ζεὺς ἔσσεται, ὦ μεγάλε Ζεῦ·
> Γᾶ καρποὺς ἀνίει, διὸ κλῄζετε μητέρα γαῖαν.

Similar explanations become more frequent in later Greek historians who, unable to admit anything supernatural or miraculous as historical fact, strip the ancient legends of all that renders them incredible, and then treat them as narratives of real events, and not as fiction.[1] With them, Æolus, the god of the winds, became an ancient mariner skilled in predicting weather; the Cyclopes were a race of savages

[1] Grote, i. 554.

inhabiting Sicily; the Centaurs were horsemen; Atlas was a great astronomer, and Scylla a fast-sailing filibuster. This system, too, like the former, maintained itself almost to the present day. The early Christian controversialists, St. Augustine, Lactantius, Arnobius, availed themselves of this argument in their attacks on the religious belief of the Greeks and Romans, taunting them with worshipping gods that were no gods, but known and admitted to have been mere deified mortals. In their attacks on the religion of the German nations, the Roman missionaries recurred to the same argument. One of them told the Angli in England that *Woden*, whom they believed to be the principal and the best of their gods, from whom they derived their origin, and to whom they had consecrated the fourth day in the week, had been a mortal, a king of the Saxons, from whom many tribes claim to be descended. When his body had been reduced to dust, his soul was buried in hell, and suffers eternal fire.[1] In many of our handbooks of mythology and history, we still find traces of this system. Jupiter is still spoken of as a ruler of Crete, Hercules as a successful general or knight-errant, Priam as an eastern king, and Achilles, the son of Jupiter and Thetis, as a valiant champion in the siege of Troy. The siege of Troy still retains its place in the minds of many as an historical fact, though resting on no better authority than the carrying off of Helena by Theseus and her recovery by the Dioskuri, the siege of Olympus by the Titans, or the taking of Jerusalem

[1] Kemble, *Saxons in England*, i. 338; *Legend. Nova*, fol. 210 b.

by Charlemagne, described in the chivalrous romances[1] of the Middle Ages.

In later times the same theory was revived, though not for such practical purposes, and it became during the last century the favourite theory with philosophical historians, particularly in France. The comprehensive work of the Abbé Banier, 'The Mythology and Fables of Antiquity, explained from History,' secured to this school a temporary ascendancy in France; and in England, too, his work, translated into English, was quoted as an authority. His design was, as he says,[2] 'to prove that, notwithstanding all the ornaments which accompany fables, it is no difficult matter to see that they contain a part of the history of primitive times.' It is useful to read these books, written only about a hundred years ago, if it were only as a warning against a too confident spirit in working out theories which now seem so incontrovertible, and which a hundred years hence may be equally antiquated.

'Shall we believe,' says the Abbé Banier—and no doubt he thought his argument unanswerable—'shall we believe in good earnest that Alexander would have held Homer in such esteem, had he looked upon him only as a mere relater of fables? and would he have envied the happy lot of Achilles in having such a

[1] Grote, i. 636. 'The series of articles by M. Fauriel, published in the *Revue des deux Mondes*, vol. xiii, are full of instruction respecting the origin, tenor, and influence of the romances of chivalry. Though the name of Charlemagne appears, the romancers are quite unable to distinguish him from Charles Martel, or from Charles the Bald (pp. 537–39). They ascribe to him an expedition to the Holy Land, in which he conquered Jerusalem from the Saracens,' &c.

[2] *The Mythology and Fables of the Ancients, explained from History*, by the Abbé Banier. London, 1739, in six vols. Vol. i. p. ix.

one to sing his praises ?[1] . . . When Cicero is enumerating the sages, does he not bring in Nestor and Ulysses ?—would he have given mere phantoms a place among them ? Are we not taught by Cicero (Tusc. Quæst. i. 5) that what gave occasion to feign that one god supported the heavens on his shoulders, and that the other was chained to Mount Caucasus, was their indefatigable application to contemplate the heavenly bodies ? I might bring in here the authority of most of the ancients : I might produce that of the primitive Fathers of the Church, Arnobius, Lactantius, and several others, who looked upon fables to be founded on true histories ; and I might finish this list with the names of the most illustrious of our moderns, who have traced out in ancient fictions so many remains of the traditions of the primitive ages.'

How like in tone to some incontrovertible arguments used in our own days ! And again :[2]

'I shall make it appear that Minotaur with Pasiphaë, and the rest of that fable, contain nothing but an intrigue of the Queen of Crete with a captain named Taurus, and the artifice of Dædalus, only a sly confidant. Atlas bearing heaven upon his shoulders was a king that studied astronomy with a globe in his hand. The golden apples of the delightful garden of the Hesperides, and their dragon, were oranges watched by mastiff dogs.'

Biblical Interpretations.

As belonging in spirit to the same school, we have still to mention those scholars who looked to Greek mythology for traces, not of profane, but of sacred personages, and who, like *Bochart*, imagined they could recognise in Saturn the features of Noah, and in his three sons, Jupiter, Neptune, and Pluto, the three sons of Noah, Ham, Japhet, and Shem.[3] *G. J.*

[1] Vol. i. p. 21.
[2] Vol. i. p. 29.
[3] *Geographia Sacra*, lib. i. : '"Noam esse Saturnum tam multa

Vossius, in his learned work, '*De Theologia Gentili et Physiologia Christiana, sive De Origine et Progressu Idolatriæ*,'[1] identified Saturn with Adam or with Noah, Janus and Prometheus with Noah again, Pluto with Japhet or Ham, Neptune with Japhet, Minerva with Naamah, the sister of Tubal Cain, Vulcanus with Tubal Cain, Typhon with Og, king of Bashan, &c. Gerardus Crœsus, in his 'Homerus Ebræus,' maintains that the Odyssey gives the history of the patriarchs, the emigration of Lot from Sodom, and the death of Moses, while the Iliad tells the conquest and destruction of Jericho. *Huet*, in his '*Demonstratio Evangelica*,'[2] went still further. His object was to prove the genuineness of the books of the Old Testament by showing that nearly the whole theology of the heathen nations was borrowed from Moses. Moses himself is represented by him as having assumed the most incongruous characters in the traditions of the Gentiles; and not only ancient lawgivers like Zoroaster and Orpheus, but gods like Apollo, Vulcan, and Faunus, are traced back by the learned and pious bishop to the same historical prototype. And as Moses was the prototype of the Gentile gods, his sister Miriam or his

docent ut vix sit dubitandi locus." Ut Noam esse Saturnum multis argumentis constitit, sic tres Noæ filios cum Saturni tribus filiis conferenti, Hamum vel Chamum esse Jovem probabunt hæ rationes.—Japhet idem qui Neptunus. Semum Plutonis nomine detruserunt in inferos.—Lib. i. c. 2. Jam si libet etiam ad nepotes descendere; in familia Hami sive Jovis Hammonis, Put est Apollo Pythius; Chanaan idem qui Mercurius.—Quis non videt Nimrodum esse Bacchum? Bacchus enim idem qui *bar-chus*, i. e. Chusi filius. Videtur et Magog esse Prometheus.'

[1] Amsterdami, 1668, pp. 71, 73, 77, 97: 'Og est iste qui a Græcis dicitur Τυφῶν,' &c.

[2] Parisiis, 1677.

wife Zippora were supposed to have been the models of all their goddesses.[1]

Mr. Gladstone's Theory.

You are aware that Mr. Gladstone, in his interesting and important work on Homer, takes a similar view, and tries to discover in parts of the Greek mythology a dimmed image of the sacred traditions of the Jews; not so dimmed, however, as to prevent us from recognising, as he thinks, in Jupiter, and especially in Apollo and Minerva, a marked resemblance to those traditions.[2] In the last number of one of the

[1] 'Caput tertium: I. Universa propemodum Ethnicorum Theologia ex Mose, Mosisve actis aut scriptis manavit. II. Velut illa Phœnicum. Tautus idem ac Moses. III. Adonis idem ac Moses. IV. Thammus Ezechielis idem ac Moses. V. Πολυώνυμος fuit Moses. VI. Marnas Gazensium Deus idem ac Moses.—Caput quartum: VIII. Vulcanus idem ac Moses. IX. Typhon idem ac Moses.—Caput quintum: II. Zoroastres idem ac Moses.—Caput octavum: III. Apollo idem ac Moses. IV. Pan idem ac Moses. V. Priapus idem ac Moses, &c. &c.—p. 121. Cum demonstratum sit Græcanicos Deos, in ipsa Mosis persona larvata, et ascititio habitu contecta provenisse, nunc probare aggredior ex Mosis scriptionibus, verbis, doctrina, et institutis, aliquos etiam Græcorum eorundem Deos, ac bonam Mythologiæ ipsorum partem manasse.'

[2] The following extract from a letter addressed to me by Mr. Gladstone, and printed here with his permission, will place his opinions on the relation of the Homeric Mythology to the sacred traditions of the Jewish race in a clearer and more definite light:—

'It is not, I assure you, true, that I have seen in the Hellenic Mythology a dimmed image of the history of the Jews; or that Zeus, Apollo, and Athene are in my view representations of the Three Persons of the Trinity. I go much further than this, and venture to say that, although I fear there may be deeper points of difference between us than such as appear on the surface of your work, yet I would accept the whole of your theory respecting the origin of the personages of the Hellenic mythology in perfect consistency with what I have myself intended, and very crudely and imperfectly laboured to express. I do not mean to say that I accept in full the creed of the Dawn; but then, speaking gener-

best edited quarterlies, in the 'Home and Foreign Review,' a Roman Catholic organ, Mr. F. A. Paley, the

ally, I feel myself wholly incompetent to pass any real judgment upon the evidence you adduce in its favour. Let me venture, however, to express my dissent from your statements about Aphrodite. I do not mean as to the origin of the name, on which I cannot presume to pronounce, or as to the functions with which it may have been originally associated. But I think you draw a picture of her as a personage in the earliest known, that is the Homeric, stage of the Hellenic mythology. Now I will not deny that the epithet "golden" may have become her property by inheritance from some prior tradition which may have associated her with the Dawn: there are grounds which would lead me to think it not improbable. But this would of itself be a poor foundation on which to build a theory; and, as far as the Homeric mythology is concerned, I am not aware of any other. But what I am most struck with is your appearing to hold that the degradation of her idea and worship came in at a later period. Now I hold that throughout Homer, from beginning to end, this degradation is not to be mistaken by any careful observer, who goes straight to his author, and does not allow himself, as is so common, to interpret Homeric personages through Virgilian representations. As to the sea-birth, there is not in Homer a vestige of it. It appears curiously in Pausanias; in a temple of Poseidon she is held up by Thalassa apparently as a child of the sea-god; but I think he mentions that the work is a late work, or a work of his own time.* I do not, pray observe, enter into the application to her of your theory; but I think you cannot sustain it from early, I mean the earliest, Greek evidence. When we come down to the traditions of Aphrodite Ourania, distinct from the Pandemos and the Apostrophia, I admit you may draw certain favourable presumptions from them.

'Now, what I should like to do, if I were able, would be to convey to your mind a clear conception of the standing-point from which I regard the Homeric, or, as I venture to call it, the Olympian mythology. For you would find that it is one of deep and fruitful interest, while it lies somewhat off the path of your great undertaking. In conversation I should have more hope of doing it than in a letter. I shall fail, and fail by my own fault, not by yours. But I will put down a few words; and not one among them which I should not endeavour to support by evidence if occasion served.

'I find Homer, then, as respects the department of mythology, deserving of the testimony which Herodotus gave him, and leaving but a very small share in the partnership to Hesiod, or to the author of the

* See page 474, note [1].

well-known editor of 'Euripides,' advocates the same sacred Euhemerism. 'Atlas,' he writes, 'symbolises

Theogony, whoever he may be, and who was not properly a maker, but a very useful reporter, of mythological tradition as it came into his hand. He surely was not a man of the power required to manipulate and modify such materials. But Homer, with the vast mechanism of the Trojan war (be that Dawn too, or be it not) in his hands, and in such hands, and almost compelled to employ an elaborate and varied theurgy, and obtaining the key to the heart and mind of his people, and becoming by his genius in a great degree the maker of that Hellenic nation which has done so much to make us all—was in a position of advantage without parallel for giving form to the religious traditions of his country. Now let us suppose it to be true, and I admit it so appears, that the materials out of which the Hellenic mythology grew or was constructed, were in great part supplied by some system or systems of Nature worship. But surely it cannot be denied that, in the hands of the Hellenic race (chiefly and before all I should say in the hands of Homer), these materials were moulded, almost indeed coerced, into a new shape; they were brought to submit to the dominion of a new spirit. From some quarter or other, the anthropomorphic force came in; and this force either subordinated or repelled all others; built up the system in complete subserviency to itself; left the traditions of the old *cultus* of Nature to take refuge in the recesses of Arcadia, or (perhaps) to veil themselves in the mysteries of Eleusis, but forbade them utterly the use of the Achaian or the Hellenic stamp; humanised in a marvellous manner, by reflection, the Olympian life; contaminated it indeed, but did even this in a manner intensely human; and then, having everywhere saturated the divine idea with the human element, applied this idea, as a principle, to life in a multitude of forms: as, for example, in concentrating the idea of art upon the human frame; in the lofty and singularly comprehensive idea of human nature; in a profound self-respect and a great value for human life. Great as was the change imposed on the crude materials supplied by Egypt (if they were so supplied) in order that they might issue in the perfect forms of Hellenic art, it was no greater, as it seems to me, than the change wrought by masterly workmanship, in obedience to the wants and tendencies of the national mind, upon the mythological materials supplied from so many ethnic sources, before they became the Olympian system.

'Now comes the question, What was the source of this anthropomorphic influence? I conclude, or rather I assume, that the worker, whether Homer, or his race, or both, did not in this point, more than in any other, work without materials. If you are right, or if the competing systems to which you refer are right, you must I think feel that, in

the endurance of labour. He is placed by Hesiod close to the garden of the Hesperides, and it is *im-*

order to effect the transition from the stage you describe to a religion provided with the apparatus of the Olympian mythology, something is wanting which must be sought elsewhere. From whence did it come; and come, too, endowed with a power so subtle and so commanding?

'Now, here I take my stand upon Homer as a great and comprehensive depository of evidence, which is only now beginning to be worked upon, and which in the main is scarcely less entitled to be reasoned from for the purposes in view, though of course after a somewhat different manner than is the evidence afforded by geological research with reference to its proper sphere.

'When I come to examine these poems, I find the anthropomorphic force at work, and in its fullest vigour. Moreover, I find it developed in certain cases with an astonishing purity and elevation. I find that the mythological system, though it has effectually banished or subdued the elements not anthropomorphic, yet is morally as far as possible from being homogeneous; and that the differences of structure seem to point to differences of origin. But, you will say, I brought to Homer the determination to find all this. Here, however, we are upon a matter of fact; and I am ashamed to say that, when I began the systematic study of Homer about ten years ago, I not only had no vision or even inkling of a theory about the Hellenic mythology; but I had never before learned to feel an interest in it; and everything that I have since said or written has come to me, in the first instance, by suggestion from the text of Homer itself, though it has been also supported from other quarters, and I think most of all from the truthful archæology of Pausanias.

'Of course I do not now in anything attempt to prove, but I assert that the text of Homer contains a vast mass of what may be called evidence at first hand, bearing upon the question how and from whence the anthropomorphic element came into the Hellenic religion with the deep vital energy that inspired it, and that the conclusion, to which the evidence points, is as follows:—I suppose it is not denied that there were in the world, at a very early period as compared with the Hellenic civilisation, certain Semitic traditions, which for a large part of mankind are also Christian beliefs, but which may here be rudely and conveniently described as Messianic ideas. They related to the appearance at a future time of a Deliverer, and the establishment in Him of an identifying relation between the divine and the human nature; and to the Divine Word or Wisdom, as concerned in the order and government of the world; as well as to other matters which need not here be further stated. I do not now speak of these traditions as matter of

possible to doubt that here we have a tradition of the garden of Eden, the golden apples guarded by a dragon being the apple which the serpent tempted

religious obligation, or even interest: I speak of them merely as facts. And I affirm, taking my stand upon the evidence supplied by the poems especially, that if these traditions had filtered through the intermediate space, by whatever channel, into the sphere of the earliest Hellenic life, they supply us with what was wanting towards a complete and rational genesis of the Homeric or Olympian mythology; and that, without this hypothesis, that wonderful formation must remain utterly inexplicable. I therefore really know nothing about what you term sacred euhemerism. The question is one not of mere theory or presupposition, but of testimony; and of hypothesis only called in to meet and answer the demands of fact.

'If I am asked more specifically as to the mode of operation by which the result was accomplished, I would roughly answer thus:—Homer, whom I take partly for the maker and partly for the symbol of his people, sits in his mighty workshop, like the young Hephaistos in the ocean cave, making into toy-bracelets and the like the materials with which he was supplied by (I think) the nymph Eurunomè. The materials brought to Homer are the mythological traditions of the various races and nations and families that contributed to the formation of the composite Hellenic stock. He fits together names and attributes, bound by no severe anterior law, and able to follow the bent of his own and his nation's genius. What he cannot use (like Nereus, a pure elemental god), he casts aside. What he can, like Zeus, or suppose we call him Dyaus, he modifies and clothes, so as to satisfy the main idea. On the whole, the Nature Powers, passing through the crucible of his mind, are at once compressed and spiritualised, so that the human element, both of form and character, becomes dominant, and physical functions swell into the class of attributes more or less *aδ extra*. Now I may be met with an outcry: What, is it to be supposed that any man or people ever so dealt with its religion? To which I answer by seeking shelter from those admirable and delightful pages, in which you point out the distinction between the mythological system of Greece and the religion of its people individually. Secondly, I am describing roughly and briefly a process long, subtle, in great part unconscious. Thomas Aquinas in a certain sense made a theology. Much more largely was Homer, and were the Hellenes, makers. The Theomachy, the Theo-andro-machies, and much else in the poems, show us not only that the severance between God and good had begun, but that it had made alarming progress.'

Eve to gather, or the garden kept by an angel with a flaming sword.'[1]

Though it was felt by all unprejudiced scholars that none of these systems of interpretation was in the least satisfactory, yet it seemed impossible to suggest any better solution of the problem; and though at the present moment few, I believe, could be found who adopt any of these systems exclusively—who hold that the whole of Greek mythology was invented for the sake of inculcating moral precepts, or of promulgating physical or metaphysical doctrines, or of relating facts of ancient history, and even of sacred history, many have acquiesced in a kind of compromise, admitting that some parts of mythology might have a moral, others a physical, others an historical character, but that there remained a great body of fables, which yielded to no tests whatever. The riddle of the Sphinx of Mythology remained unsolved.

Philological Interpretation.

The first impulse to a new consideration of the mythological problem came from the study of comparative philology. Through the discovery of the ancient language of India, the classical Sanskrit, which was due to the labours of Wilkins,[2] Sir W. Jones, and Colebrooke, some eighty years ago; and through the discovery of the intimate relationship

[1] *Home and Foreign Review*, No. 7, p. 111, 1864: 'The Cyclopes were probably a race of pastoral and metal-working people from the East, characterised by their *rounder* faces, whence arose the story of their one eye.'—*F. A. P.*

[2] Bhagavadgita, ed. Wilkins, 1785.

between that language and the languages of the principal races of Europe, due to the genius of Schlegel, Humboldt, Bopp, and others, a complete revolution took place in the views commonly entertained of the ancient history of the world. I have no time to give a full account of these researches; but I may state it as a fact, suspected, I suppose, by no one before, and doubted by no one after it was enunciated, that the languages spoken by the Brahmans of India, by the followers of Zoroaster and the subjects of Darius in Persia; by the Greeks, by the Romans; by Celtic, Teutonic, and Slavonic races, were all mere varieties of one common type—stood, in fact, to each other in the same relation as French, Italian, Spanish, and Portuguese stand to each other as modern dialects of Latin. This was, indeed, 'the discovery of a new world,' or, if you like, the recovery of an old world. All the landmarks of what was called the ancient history of the human race had to be shifted, and it had to be explained, in some way or other, how all these languages, separated from each other by thousands of miles and thousands of years, could have originally started from one common centre.

On this,[1] however, I cannot dwell now; and I must proceed at once to state how, after some time, it was discovered that not only the radical elements of all these languages which are called Aryan or Indo-European—not only the numerals, pronouns, prepositions, and grammatical terminations—not only their household words, such as father, mother, brother,

[1] *Biographies of Words and Home of the Âryas*, p. 80.

daughter, husband, brother-in-law, cow, dog, horse, cattle, tree, ox, yoke, axle, earth, sky, water, stars, and many hundreds more, were identically the same, but that each possessed the elements of a mythological phraseology, displaying the palpable traces of a common origin.

Comparative Mythology.

What followed from this for the Science of Mythology? Exactly the same as what followed for the Science of Language from the discovery that Sanskrit, Greek, Latin, German, Celtic, and Slavonic had all one and the same origin. Before that discovery was made, it was allowable to treat each language by itself, and any etymological explanation that was in accordance with the laws of each particular language might have been considered satisfactory. If Plato derived *theós*, the Greek word for god, from the Greek verb *théein*, to run, because the first gods were the sun and moon, always running through the sky;[1] or if Herodotus[2] derived the same word from *tithénai*, to set, because the gods set everything in order, we can find no fault with either. But if we once admit, in spite of phonetic difficulties, that the same word exists in Sanskrit and Latin, as deva and *deus*,[3] we cannot accept any etymology for the Greek word that is not

[1] Plat. *Crat.* 397 C.

[2] Her. ii. 52.

[3] On the relation of deva and *deus* to θεός, see Ascoli, *Frammenti Linguistici*, iii., and Schweizer-Siedler, in Kuhn's *Zeitschrift*, xvii. p. 142. M. M., *Chips from a German Workshop*, vol. iv. p. 239. On the anomalies of form and flexion due to the sacredness of names, see Diez, *Lexicon Etymologicum*, p. 155; Grimm, *Deutsche Grammatik*, i². p. 1071; Diefenbach, *Gothisches Wörterbuch*, ii. p. 416.

applicable to the corresponding terms in Sanskrit and Latin. If we knew French only, we might derive the French *feu*, fire, from the German *Feuer*. But if we see that the same word exists in Italian as *fuoco*, in Spanish as *fuego*, it is clear that we must look for an etymology applicable to all three, which we find in the Latin *focus*, and not in the German *Feuer*. Even so thoughtful a scholar as Grimm does not seem to have perceived the absolute stringency of this rule. Before it was known that there existed in Sanskrit, Greek, Latin, and Slavonic, the same word for *name*, identical with the Gothic *namô* (gen. *namins*), it would have been allowable to derive the German word from a German root. Thus Grimm (*Grammatik*, ii. 30) derived the German *Name* from the verb *nehmen*, to take. This would have been a perfectly legitimate etymology. But when it became evident that the Sanskrit nâman stood for gnâman, just as *nomen*, for *gnomen* (cognomen, ignominia), and was derived from a verb gnâ, to know, it became impossible to retain the derivation of *Name* from *nehmen*, and at the same time to admit that of nâman from gnâ.[1] Each word can have but one etymology, as each living being can have but one mother.

Let us apply this to the mythological phraseology of the Aryan nations. If we had to explain the names and fables of the Greek gods only, an explanation such as that which derives the name of *Zeús* from the verb *zên*, to live, would be by no means contemptible.

[1] Grimm, *Geschichte der Deutschen Sprache*, p. 153. Other words derived from gnâ, are notus, nobilis, gnarus, ignarus, ignoro, narrare (gnarigare), gnōmōn, I ken, I know, uncouth, &c.

But if we find that *Zeus* in Greek is the same word as Dyaus in Sanskrit, *Ju* in *Jupiter*, and *Tiu* in *Tuesday*, we perceive that no etymology would be satisfactory that did not explain all these words together. Hence it follows, that in order to understand the origin and meaning of the names of the Greek gods, and to enter into the original intention of the fables told of each of them, we must not confine our view within the Greek horizon, but must take into account the collateral evidence supplied by Latin, German, Sanskrit, and Zend mythology. The key that is to open one must open all; otherwise it cannot be the right key.

Strong objections have been raised against this line of reasoning by classical scholars; and even those who have surrendered Greek etymology as useless without the aid of Sanskrit, protest against this desecration of the Greek Pantheon, and against any attempt at deriving the gods and fables of Homer and Hesiod from the monstrous idols of the Brahmans. I believe this is mainly owing to a misunderstanding. No sound scholar would ever think of deriving any Greek or Latin word from Sanskrit. Sanskrit is not the mother of Greek and Latin, as Latin is of French and Italian. Sanskrit, Greek, and Latin are sisters, varieties of one and the same type. They all point to some earlier stage when they were less different from each other than they now are; but no more. All we can say in favour of Sanskrit is, that it is the eldest sister; that it has retained many words and forms less changed and [illegible]upted than Greek and Latin. The more primi-

tive character and transparent structure of Sanskrit have naturally endeared it to the student of language, but they have not blinded him to the fact, that on many points Greek and Latin—nay, Gothic and Celtic—have preserved primitive features which Sanskrit has lost. Greek is co-ordinate with, not sub-ordinate to, Sanskrit; and the only distinction which Sanskrit is entitled to claim is that which Austria used to claim in the German Confederation—to be the first among equals, *primus inter pares*.

There is, however, another reason which has made any comparison of Greek and Hindu gods more particularly distasteful to classical scholars. At the very beginning of Sanskrit philology attempts were made by no less a person than Sir W. Jones[1] at identifying the deities of the modern Hindu mythology with those of Homer. This was done in the most arbitrary manner, and has brought any attempt of the same kind into deserved disrepute among sober critics. Sir W. Jones is not responsible, indeed, for such comparisons as *Cupid* and *Dipuc* (dîpaka); but to compare, as he does, modern Hindu gods, such as Vishṇu, Śiva, or Kṛishṇa, with the gods of Homer, was indeed like comparing modern Hindu-

[1] Sir W. Jones, *On the Gods of Greece, Italy, and India.* (Works, vol. i. p. 229.) He compares Janus with Ganeśa, Saturn with Manu Satyavrata, nay, with Noah; Ceres with Śrî, Jupiter with Divaspati and with Śiva (τριόφθαλμος = trilokana), Bacchus with Bâgîśa, Juno with Pârvatî, Mars with Skanda, nay, with the Secander of Persia, Minerva with Durgâ and Sarasvatî, Osiris and Isis with Îśvara and Îśî, Dionysos with Râma, Apollo with Kṛishṇa, Vulcan with Pâvaka and Viśvakarman, Mercury with Nârada, Hekate with Kâlî.

stâni with ancient Greek. Trace Hindustâni back to Sanskrit, and it will be possible then to compare it with Greek and Latin; but not otherwise. The same in mythology. Trace the modern system of Hindu mythology back to its earliest form, and there will then be some reasonable hope of discovering a family likeness between the sacred names worshipped by the Aryans of India and the Aryans of Greece.

The Rigveda.

This was impossible at the time of Sir William Jones; it is even now but partially possible. Though Sanskrit has now been studied for three generations, the most ancient work of Sanskrit literature, the Rigveda, is still a book with seven seals. The wish expressed by Otfried Müller in 1825, in his *Prolegomena to a Scientific Mythology*, 'Oh that we had an intelligible translation of the Veda!' is still unfulfilled; and though of late years nearly all Sanskrit scholars have devoted their energies to the elucidation of Vedic literature, many years are still required before Otfried Müller's desire can be realised. This is true even in 1890.

Now Sanskrit literature without the Veda is like Greek literature without Homer, like Jewish literature without the Bible, like Mohammedan literature without the Koran; and you will easily understand how, if we do not know the most ancient form of Hindu religion and mythology, it is premature to attempt any comparison between the gods of India and the gods of any other country. What was

wanted as the only safe foundation, not only of Sanskrit literature, but of Comparative Mythology—nay, of Comparative Philology—was an edition of the most ancient document of Indian literature, Indian religion, Indian language—an edition of the Rigveda. The ten books of the Rigveda have now been published in the original, together with an ample Indian commentary, by Sâyana, 1849–75. But, after the text and commentary of the Rigveda are published, there still remains the grave task of translating, or, I should rather say, deciphering, these ancient hymns. [1]

There are indeed several translations of the Rigveda. The first was published in French, by Langlois, in 1848–59. It reads very well, but it is in all difficult passages mere guess-work, and without any authority. The second, by the late Professor Wilson, 1850–66, is a reproduction—though not always a quite faithful reproduction—of the sense assigned to these ancient hymns by Sâyana. It can claim to be authoritative so far as the native scholastic interpretation of the Veda is concerned. But that interpretation of Indian theologians and philosophers shows us quite as often how the Veda was misunderstood by later commentators as how it was understood by the ancient poets themselves. Then followed a metrical German translation, by Grassmann, 1876–77, very creditable for the then state of scholarship, very readable, but again very free and

[1] I have since published the first volume of my translation of the Rigveda: Rigveda-Sanhitâ, 'The Sacred Hymns of the Brahmans,' translated and explained. London: (Trübner & Co.) 1869.

very vague in all difficult passages. The first who grappled seriously with the difficulties that have to be met in translating the Rigveda was Ludwig. His translation appeared in 1876, and was followed by a learned introduction in 1878, and by a commentary in 1881 and 1883. Much as this translation has been slighted, it is as yet the only scholarlike rendering of the Vedic hymns, and if it is often unintelligible, it is at all events honest.

There is only one process by which a real translation of the Veda may be achieved. We must decipher it as we decipher an inscription. We must collect all the passages in which the same word occurs—this I have done in my *Index Verborum*—and we must then try to discover a meaning that will fit all the passages in which the same word occurs. This is what I attempted to do in the volume which I published in 1869. It was a specimen of what I thought and still think the only scientific method. It contains twelve hymns only, and it was impossible to continue the work on that scale. Whether I shall be able to continue it at my time of life is very doubtful, but whoever means to produce a really satisfactory translation will have to follow my method. There are many more or less successful translations to be found in the works of Muir, Roth, Kaegi, Geldner, and in my own works, but even where these translations are evidently correct, they cannot claim permanent authority unless the rendering of every difficult word is justified by a comparison of all parallel passages.

This process of deciphering is a slow one; yet, through the combined labours of various scholars,

some progress has been made, and some insight has been gained into the mythological phraseology of the Vedic Rishis. One thing we can clearly see, that the same position which Sanskrit, as the most primitive, most transparent of the Aryan dialects, holds in the Science of Language, the Veda and its most primitive, most transparent system of religion will hold in the Science of Mythology and Religion. In the hymns of the Rigveda we still have the last chapter of the real Theogony of the Aryan races. We just catch a glimpse, behind the scenes, of the agencies which were at work in producing that magnificent stage-effect witnessed in the drama of the Olympian gods. There, in the Veda, the Sphinx of Mythology still utters a few words to betray her own secret, and shows us that it is man, that it is human thought and human language combined, which naturally and inevitably produced that strange conglomerate of ancient fable which has perplexed all rational thinkers, from the days of Xenophanes to our own time.

I shall try to make my meaning clearer. You will see that a great point is gained in comparative mythology if we succeed in discovering the original meaning of the names of the gods. If we knew, for instance, what *Athene*, or *Here*, or *Apollo* meant at first, we should have something firm to stand on or to start from, and be able to follow more securely the later development of these names. We know, for instance, that *Selene* in Greek means moon, and knowing this, we at once understand the myths that she is the sister of *Helios*, for *helios* means sun; that she is

the sister of *Eos*, for *eos* means dawn;—and if another poet calls her the sister of *Euryphaëssa*, we are not much perplexed, for *euryphaëssa*, meaning wide-shining, can only be another name for the dawn. If she is represented with two horns, we at once remember the two horns of the moon; and if she is said to have become the mother of *Erse* by *Zeus*, we again perceive that *erse* means *dew*, and that to call Erse the daughter of *Zeus* and *Selene* was no more than if we, in our more matter-of-fact language, say that there is dew after a moonlight night.

Now one great advantage in the Veda is, that many of the names of the gods are still intelligible; are used, in fact, not only as proper names, but likewise as appellative nouns. Agni, one of their principal gods, means clearly fire; it is the same word as the Latin *ignis*. Hence we have a right to explain his other names, and all that is told of him, as originally meant for fire. Vâyu or Vâta means clearly *wind*, Marut means *storm*, Parganya rain, Savitar the sun, Ushas, as well as its synonyms, Urvasî, Ahanâ, Saranyû, means *dawn*; Prithivî, earth; Dyâvâ-prithivî, *heaven* and *earth*. Other divine names in the Veda which are no longer used as appellatives, become easily intelligible, because they are used as synonyms of more intelligible names (such as urvasî for ushas), or because they receive light from other languages, such as Varuna, clearly the same word as the Greek *ouranós*, and meaning originally the sky.

Another advantage which the Veda offers is this, that in its numerous hymns we can still watch the

gradual growth of the gods, the slow transition of appellatives into proper names, the first tentative steps towards personification. The Vedic Pantheon is held together by the loosest ties of family relationship; nor is there as yet any settled supremacy like that of Zeus among the gods of Homer. Every god is conceived as supreme, or at least as inferior to no other god, at the time that he is praised or invoked by the Vedic poets; and the feeling that the various deities are but different names, different conceptions of that Incomprehensible Being which no thought can reach, and no language can express, is not yet quite extinct in the minds of some of the more thoughtful among the Vedic bards.

CHAPTER XI.

JUPITER.

Religion and Mythology.

THERE are few mistakes so widely spread and so firmly established as that which makes us confound the religion and the mythology of the ancient nations of the world. How mythology arises, necessarily and naturally, I have tried to explain; and we saw that, as an affection or disorder of language, mythology may infect every part of the intellectual life of man. True it is that no ideas are more liable to mythological disease than religious ideas, because they transcend those regions of our experience within which language has its natural origin, and must therefore, according to their very nature, be satisfied with metaphorical expressions. 'Eye hath not seen, nor ear heard, neither hath it entered into the heart of man.'[1] Yet even the religions of the ancient nations are by no means inevitably and altogether mythological. On the contrary, as a diseased frame presupposes a healthy frame, so a mythological religion presupposes, I believe, a healthy religion. Before the Greeks could call the sky, or the sun, or the moon

[1] 1 *Cor.* ii. 9; *Is.* lxiv. 4.

gods, it was absolutely necessary that they should have framed to themselves some idea of godhead. We cannot speak of King Solomon unless we first know what, in a general way, is meant by King, nor could a Greek speak of gods in the plural before he had realised, in some way or other, the general predicate of the godhead. Idolatry arises naturally when people say 'The sun is god,' instead of saying 'The sun is of God;' when they use God as a predicate, though, according to its very nature, it can be used as a subject only. This may have been inevitable, but it is all the more interesting to find out what the ancients meant to predicate when they called the sun or the moon gods. Until we have a clear conception of this, we shall never enter into the true spirit of their religion.

It is strange, however, that while we have endless books on the mythology of the Greeks and Romans, we have hardly any on their religion, and most people have brought themselves to imagine that what we call religion—our trust in an all-wise, all-powerful, eternal Being, the Ruler of the world, whom we approach in prayer and meditation, to whom we commit all our cares, and whose presence we feel not only in the outward world, but also in the warning voice within our hearts—that all this was unknown to the heathen world, and that their religion consisted simply in the fables of Jupiter and Juno, of Apollo and Minerva, of Venus and Bacchus. Yet this is not so. Mythology has encroached on ancient religion; it has at some times wellnigh choked its very life; yet through the rank and poisonous vegetation of mythic

phraseology we may always catch a glimpse of that original stem round which it creeps and winds itself, and without which it could not enjoy even that parasitical existence which has been mistaken for independent vitality.

Greek Religion.

A few quotations will explain what I mean by ancient religion as independent of ancient mythology. Homer, who, together with Hesiod, made the theogony or the history of the gods for the Greeks—a saying of Herodotus which contains more truth than is commonly supposed—Homer, whose every page teems with mythology, nevertheless allows us many an insight into the inner religious life of his age. What did the swineherd Eumaios know of the intricate Olympian theogony? Had he ever heard the name of the Charites, or of the Harpyias? Could he have told who was the father of Aphrodite, who were her husbands and her children? I doubt it: and when Homer introduces him to us, speaking of this life and the higher powers that rule it, Eumaios knows only of just gods, 'who hate cruel deeds, but honour justice and the righteous works of man.'[1] His whole view of life is built up on a complete trust in the Divine government of the world, without any such artificial supports as a belief in Hermes, the Erinys, the Nemesis, or Moira.

'Eat,' says the swineherd to Ulysses, 'and enjoy what is here, for God[2] will grant one thing, but an-

[1] *Od.* xiv. 83.

[2] There is nothing to make us translate θεός by a god rather than by

other he will refuse, whatever he will in his mind, for he can do all things.' (*Od.* xiv. 444; x. 306.)

This surely is religion, and it is religion untainted by mythology. Again, the prayer of the female slave, grinding corn in the house of Ulysses, is religion in the truest sense. 'Father Zeus,' she says, 'thou who rulest over gods and men, surely thou hast just thundered from the starry heaven, and there is no cloud anywhere. Thou showest this as a sign to some one. Fulfil now, even to me, miserable wretch! the prayer which I may utter.' When Telemachos is afraid to approach Nestor, and declares to Mentor that he does not know *what* to say,[1] does not Mentor or Athene encourage him in words that might easily be translated into the language of our own religion? 'Telemachos,' she says, 'some things thou wilt thyself perceive in thy mind, and others a divine spirit will prompt; for I do not believe that thou wast born and brought up without the will of the gods.'

The omnipresence and omniscience of the Divine Being is expressed by Hesiod in language slightly, yet not altogether, mythological:—

πάντα ἰδὼν Διὸς ὀφθαλμὸς καὶ πάντα νοήσας,[2]
The eyes of Zeus, which sees all and knows all;

God; but even if we translated it a god, this could here only be meant for Zeus. (Cf. *Od.* iv. 236.) Cf. Welcker, p. 180. How the gods and Zeus are used almost promiscuously, we see in *Od.* i. 378-9: ἐγὼ δὲ θεοὺς ἐπιβώσομαι αἰὲν ἐόντας αἴ κέ ποθι Ζεὺς δῶσι παλίντιτα ἔργα γενέσθαι.

[1] *Od.* iii. 26:

Τηλέμαχ', ἄλλα μὲν αὐτὸς ἐνὶ φρεσὶ σῇσι νοήσεις,
Ἄλλα δὲ καὶ δαίμων ὑποθήσεται· οὐ γὰρ ὀΐω
Οὔ σε θεῶν ἀέκητι γενέσθαι τε τραφέμεν τε.

Homer uses θεός and δαίμων for God.

[2] *Erga*, 267.

and the conception of Homer, that 'the gods themselves come to our cities in the garb of strangers, to watch the wanton and the orderly conduct of men,'[1] though expressed in the language peculiar to the childhood of man, might easily be turned into our own sacred phraseology. Anyhow, we may call this religion—ancient, primitive, natural religion, imperfect, no doubt, yet deeply interesting, and not without a divine afflatus. How different is the undoubting trust of the ancient poets in the ever-present watchfulness of the gods, from the language of later Greek philosophy, as expressed, for instance, by Protagoras. 'Of the gods,' he says, 'I am not able to know either that they are or that they are not; for many things prevent us from knowing it, the darkness, and the shortness of human life.'[2]

The gods of Homer, though, in their mythological aspect, represented as weak, easily deceived, and led astray by the lowest passions, are nevertheless, in the more reverent language of religion, endowed with nearly all the qualities which we claim for a divine and perfect Being. The phrase which forms the keynote in many of the speeches of Odysseus, though thrown in only as it were parenthetically,

θεοὶ δέ τε πάντα ἴσασιν, 'the Gods know all things,'[3]

[1] *Od.* xvii. 483:

'Αντίνο', οὐ μὲν κάλ' ἔβαλες δύστηνον ἀλήτην,
Οὐλόμεν', εἰ δή πού τις ἐπουράνιος θεός ἐστιν.
Καί τε θεοὶ ξείνοισι ἐοικότες ἀλλοδαποῖσιν,
Παντοῖοι τελέθοντες, ἐπιστρωφῶσι πόληας,
'Ανθρώπων ὕβριν τε καὶ εὐνομίην ἐφορῶντες.

[2] Welcker, *Griechische Götterlehre*, p. 245.

[3] *Od.* iv. 379, 468.

gives us more of the real feeling of the untold millions among whom the idioms of a language grow up, than all the tales of the tricks played by Juno to Jupiter, or by Mars to Vulcan. At critical moments, when the deepest feelings of the human heart are stirred, the old Greeks of Homer seem suddenly to drop all learned and mythological metaphor, and to fall back on the universal language of true religion. Everything they feel is ordered by the immortal gods; and though they do not rise to the conception of a Divine Providence which ordereth all things by eternal laws, no event, however small, seems to happen in the Iliad in which the poet does not recognise the active interference of a divine power. This interference, if clothed in mythological language, assumes, it is true, the actual or bodily presence of one of the gods, whether Apollo, or Athene, or Aphrodite; yet let us observe that Zeus himself, the god of gods, never descends to the battlefield of Troy. He was the true god of the Greeks before he became enveloped in the clouds of Olympian mythology; and in many a passage where *theós* is used, we may without irreverence translate it by God. Thus, when Diomedes exhorts the Greeks to fight till Troy is taken, he finishes his speech with these words: 'Let all flee home; but we two, I and Sthenelos, will fight till we see the end of Troy: *for we came with God.*'[1] Even if we translated 'for we came with a god,' the sentiment would still be religious, not mythological; though of course it might easily be translated into mythological phraseology, if

[1] *Il.* ix. 49.

we said that Athene, in the form of a bird, had fluttered round the ships of the Greeks. Again, what can be more natural and more truly pious than the tone of resignation with which Nausikaa addresses the shipwrecked Ulysses? 'Zeus,' she says, for she knows no better name, 'Zeus himself, the Olympian, distributes happiness to the good and the bad, to every one, as he pleases. And to thee also *he* probably has sent this, and you ought by all means to bear it.'

Lastly, let me read the famous line, placed by Homer in the mouth of Peisistratos, the son of Nestor, when calling on Athene, as the companion of Telemachos, and on Telemachos himself, to pray to the gods before taking their meal: 'After thou hast offered thy libation and prayed, as it is meet, give to him also afterwards the goblet of honey-sweet wine to pour out his libation, because I believe that he also prays to the immortals, *for all men yearn after the gods.*'[1]

It might be objected that no truly religious sentiment was possible as long as the human mind was entangled in the web of polytheism; that god, in fact, in its true sense, is a word which admits of no plural, and changes its meaning as soon as it assumes the terminations of that number. The Latin *ædes* means, in the singular, a sanctuary, but in the plural it assumes the meaning of a common dwelling-house; and thus *theós*, too, in the plural, is supposed to be divested of that sacred and essentially divine character which it claims in the singular. When, moreover, such names as Zeus, Apollo, and Athene are applied to

[1] πάντες δὲ θεῶν χατέουσ' ἄνθρωποι.— *Od.* iii. 48.

the Divine Being, religion is considered to be out of the question, and hard words, such as idolatry and devil-worship, are applied to the prayers and praises of the early believers.

Greek Religion as judged by Christianity.

There is a great amount of incontestable truth in all this, but I cannot help thinking that full justice has never been done to the ancient religions of the world, not even to those of the Greeks and Romans, who, in so many other respects, are acknowledged by us as our teachers and models. The first contact between Christianity and the heathen religions was necessarily one of uncompromising hostility. It was the duty of the Apostles and the early Christians in general to stand forth in the name of the only true God, and to prove to the world that their God had nothing in common with the idols worshipped at Athens and at Ephesus. It was the duty of the early converts to forswear all allegiance to their former deities, and if they could not at once bring themselves to believe that the gods whom they had worshipped had no existence at all, except in the imagination of their worshippers, they were naturally led on to ascribe to them a kind of demoniacal nature, and to curse them as the offspring of that new principle of Evil[1] with which they had become acquainted in the doctrines of the early Church. In St. Augustine's learned arguments

[1] Thus in the *Old Testament* strange gods are called devils (*Deut.* xxxii. 17), 'They sacrificed unto devils, not to God; to gods whom they knew not, to new gods that came newly up, whom your fathers feared not.' See *Cornhill Magazine*, 1869, p. 32.

against paganism, the heathen gods are throughout treated as real beings, as demons who had the power of doing real mischief.[1] I was told by a missionary, that among his converts in South Africa he discovered some who still prayed to their heathen deities; that, when remonstrated with, they told him that they prayed to them in order to avert their wrath; and that, though their idols could not hurt so good a man as he was, they might inflict serious harm on their former worshippers.

In Mexico we are told that the statues dug up among the remains of the great teocalli were buried in the court of the university, to place them beyond the reach of the idolatrous rites which the Indians were inclined to pay to them. At the solicitation of Mr. Bullock, however, they were again disinterred, to admit of his obtaining casts; and he furnishes this interesting account of the sensation excited by the restoration to light of the largest and most celebrated of the Mexican deities:—'During the time it was exposed, the court of the university was crowded with people, most of whom expressed the most decided anger and contempt. Not so, however, all the Indians. I attentively marked their countenances. Not a smile escaped them, or even a word. All was silence and attention. In reply to a joke of one of the

[1] *De Civitate Dei*, ii. 25: 'Maligni isti spiritus, &c. Noxii dæmones quos illi deos putantes colendos et venerandos arbitrabantur,' &c. *Ibid.* viii. 22: '(Credendum dæmones) esse spiritus nocendi cupidissimos, a justitia penitus alienos, superbia tumidos, invidentia lividos, fallacia callidos, qui in hoc quidem aëre habitant, quia de cœli superioris sublimitate dejecti, merito irregressibilis transgressionis in hoc sibi congruo carcere prædamnati sunt.'

students, an old Indian remarked, "It is very true we have those very good Spanish gods, but we might still have been allowed to keep a few of those of our ancestors." And I was informed that chaplets of flowers had been placed on the figures by natives who had stolen thither unseen in the evening.'[1]

Only now and then, as in the case of the *Fatum*,[2] St. Augustine acknowledges that it is a mere name, and that if it is taken in its etymological sense, namely, as that which has once been spoken by God, and is therefore immutable, it might be retained. Nay, the same thoughtful writer goes even so far as to admit that the mere multiplicity of divine names might be tolerated.[3] Speaking of the goddess Fortuna, who is also called Felicitas, he says: 'Why should two names be used? But this can be tolerated: for one and the same thing is not uncommonly called by two names. But what,' he adds, 'is the

[1] Bullock, *Six Months in Mexico*, p. 111; Wilson, *Prehistoric Man*, p. 269.

[2] *De Civitate Dei*, v. 9: 'Omnia vero fato fieri non dicimus, imo nulla fieri fato dicimus, quoniam fati nomen ubi solet a loquentibus poni, id est in constitutione siderum cum quisque conceptus aut natus est (quoniam res ipsa inaniter asseritur), nihil valere monstramus. Ordinem autem causarum, ubi voluntas Dei plurimum potest, neque negamus, neque fati vocabulo nuncupamus, nisi forte ut fatum a fando dictum intelligamus, id est, a loquendo: non enim abnuere possumus esse scriptum in literis sanctis, *Semel locutus est Deus, duo hæc audivi; quoniam potestas est Dei, et tibi, Domine, misericordia, quia tu reddes unicuique secundum opera ejus.* Quod enim dictum est, *semel locutus est*, intelligitur immobiliter, hoc est, incommutabiliter est locutus, sicut novit incommutabiliter omnia quæ futura sunt, et quæ ipse facturus est. Hac itaque ratione possemus a fando fatum appellare, nisi hoc nomen jam in alia re soleret intelligi, quo corda hominum nolumus inclinari.'

[3] *De Civ. Dei*, iv. 18.

meaning of having different temples, different altars, different sacrifices?'

Yet through the whole of St. Augustine's work, and through all the works of earlier Christian divines, as far as I can judge, there runs the same spirit of hostility blinding them to all that may be good, and true, and sacred, and magnifying all that is bad, false, and corrupt in the ancient religions of mankind. Only the Apostles and their immediate disciples venture to speak in a different and, no doubt, in a more truly Christian spirit of the old forms of worships.[1] For even though we restrict 'the sundry times and divers manners in which God spake in times past unto the fathers by the prophets' to the Jewish race, yet there are other passages which clearly show that the Apostles recognised a divine purpose and supervision even in the 'times of ignorance' at which, as they express it, 'God winked.'[2] Nay, they go so far as to say that God in times past *suffered* (*eíase*)[3] all nations to walk in their own ways. And what can be more convincing, more powerful than the language of St. Paul at Athens?[4]—

For as I passed by, and beheld your devotions, I found an altar with this inscription, To the Unknown God. Whom therefore ye ignorantly worship, him declare I unto you.

God that made the world and all things therein, seeing that he is Lord of heaven and earth, dwelleth not in temples made with hands;

Neither is worshipped with men's hands, as though he

[1] Cf. Stanley's *The Bible: its Form and its Substance.* Three Sermons preached before the University of Oxford, 1863.

[2] *Acts* xvii. [3] *Acts* xiv. 16. [4] *Acts* xvii. 23.

needed any thing, seeing he giveth to all life, and breath, and all things;

And hath made of one blood all nations of men for to dwell on all the face of the earth, and hath determined the times before appointed, and the bounds of their habitation;

That they should seek the Lord, if haply they might feel after him, and find him, though he be not far from every one of us:

For in him we live, and move, and have our being; as certain also of your poets have said, For we are also his offspring.[1]

These are truly Christian words, this is the truly Christian spirit in which we ought to study the ancient religions of the world: not as independent of God, not as the work of an evil spirit, as mere idolatry and devil-worship, not even as mere human fancy, but as a preparation, as a necessary part in the education of the human race—as a 'seeking the Lord, if haply they might feel after him.' There *was* a *fulness* of time, both for Jews and for Gentiles, and we must learn to look upon the ages that preceded it as necessary, under a divine purpose, for filling that appointed measure, for good and for evil, which would make the two great national streams in the history of mankind, the Jewish and the Gentile, the Semitic and the Aryan, reach their appointed measure, and overflow, so that they might mingle together and both be carried on by a new current, 'the well of water springing up into everlasting life.'

And if in this spirit we search through the sacred ruins of the ancient world, we shall be surprised to

[1] Kleanthes says, ἐκ τοῦ γὰρ γένος ἐσμέν; Aratus, πατὴρ ἀνδρῶν . . . τοῦ γὰρ γένος ἐσμέν (Welcker, *Griechische Götterlehre*, pp. 183, 246).

find how much more of true religion there is in what is called Heathen Mythology than we expected. Only, as St. Augustine said, we must not mind the names, strange and uncouth as they may sound on our ears. *We* are no longer swayed by the just fears which filled the hearts of early Christian writers; we can afford to be generous to Jupiter and to his worshippers. Nay, we ought to learn to treat the ancient religions with some of the same reverence and awe with which we approach the study of the Jewish and of our own. 'The religious instinct,' as Schelling says, 'should be honoured even in dark and confused mysteries.' We must only guard against a temptation to which an eminent writer and statesman of this country has sometimes yielded in his work on Homer, we must not attempt to find Christian ideas—ideas peculiar to Christianity—in the primitive faith of mankind. But, on the other hand, we may boldly look for those fundamental religious conceptions on which Christianity itself is built up, and without which, as its natural and historical support, Christianity itself could never have been what it is. The more we go back, the more we examine the earliest germs of every religion, the purer, in one sense, shall we find the conceptions of the Deity, the nobler the purposes of each founder of a new worship. But the more we go back, the more helpless and crude also shall we find language in its endeavours to express what of all things was most difficult to express. The history of religion is in one sense a history of language. Many of the ideas embodied in the language of the Gospel would have been incomprehensible and inexpressible alike, if we ima-

gine that by some miraculous agency they had been communicated to the primitive inhabitants of the earth. Even at the present moment missionaries find that they have first to educate their savage pupils, that is to say, to raise them to that level of language and thought which had been reached by Greeks, Romans, and Jews at the beginning of our era, before the words and ideas of Christianity assume any reality to their minds, and before their own native language becomes strong enough for the purposes of translation. Words and thoughts here, as elsewhere, go together; and from one point of view the true history of religion would, as I said, be neither more nor less than an account of the various attempts at expressing the Inexpressible.

I shall endeavour to make this clear by at least one instance, and I shall select for it the most important name in the religion and mythology of the Aryan nations, the name of *Zeus*, the god of gods (*theòs theôn*), as Plato calls him.

Dyaush-pitar, Zeus patêr, Jupiter, Tŷr.

Let us consider, first of all, the fact, which cannot be doubted, and which, if fully appreciated, will be felt to be pregnant with the most startling and the most instructive lessons of antiquity—the fact, I mean, that Zeus, the most sacred name in Greek mythology, is the same word as Dyaus[1] in Sanskrit, *Jovis*[2] or *Ju*

[1] Dyaus in Sanskrit is the nominative singular; Dyu the inflectional base. I use both promiscuously, though it would perhaps be better always to use Dyu.

[2] Jovis in the nom. occurs in the verse of Ennius, giving the names of the twelve Roman Deities :—

in *Ju*piter in Latin, *Tîw* in Anglo-Saxon, preserved in *Tîwesdæg*, *Tuesday*, the day of the Eddic god *Týr*; *Zio* in Old High-German.

This word was framed once, and once only: it was not borrowed by the Greeks from the Hindus, nor by the Romans and Germans from the Greeks. It must have existed before the ancestors of those primeval races became separate in language and religion; before they left their common pastures, to migrate to the right hand and to the left, till the hurdles of their sheepfolds grew into the walls of the great cities of the world.

Here, then, in this venerable word, we may look for some of the earliest religious thoughts of our race, expressed and enshrined within the imperishable walls of a few simple letters. What did Dyu mean in Sanskrit? How is it used there? What was the root which could be forced to reach the highest aspirations of the human mind? We should find it difficult to discover the radical or predicative meaning of *Zeus* in Greek; but dyaus in Sanskrit tells its own tale. It is derived from the root dyu or div, which in Sanskrit has been supplanted by the derivative root dyut, *to beam*. A root of this rich and expansive meaning would be applicable to many conceptions: the dawn, the sun, the sky, the day, the stars, the eyes, the ocean, and the meadow, might all be spoken of as bright, gleaming, smiling,

Juno, Vesta, Minerva, Ceres, Diana, Venus, Mars,
Mercurius, Jovi', Neptunus, Vulcanus, Apollo.

Dius in Dius Fidius, i. e. Ζεὺς πίστιος, belongs to the same class of words Cf. Hartung, *Religion der Römer*, ii. 44.

blooming, sparkling. But in the actual and settled language of India, dyu, as a noun, means principally *sky* and *day*. Before the ancient hymns of the Veda had disclosed to us the earliest forms of Indian thought and language, the Sanskrit noun dyu was hardly known as the name of an Indian deity, but only as a feminine, and as the recognised term for sky. The fact that dyu remained in common use as a name for *sky* was sufficient to explain why dyu in Sanskrit should never have assumed that firm mythological character which belongs to Zeus in Greek; for as long as a word retains the distinct signs of its original import, and is applied as an appellative to visible objects, it does not easily lend itself to the metamorphic processes of early mythology. As dyu in Sanskrit continued to mean *sky*, though as a feminine only, it was difficult for the same word, even as a masculine, to become the germ of any very important mythological formations. Language must die before it can fully enter into a new stage of mythological life.

Even in the Veda, where dyu still occurs as a masculine, as an active noun, and discloses the same germs of thought which in Greece and Rome grew into the name of the supreme god of the firmament, Dyu, the deity, the lord of heaven, the ancient god of light, never assumes any powerful mythological vitality, never rises to the rank of a supreme deity. In the early lists of Vedic deities, Dyu is not included, and the real representative of Jupiter in the Veda is t Dyu but Indra, a name of Indian growth, and nown in any other independent branch of Aryan guage. Indra was another conception of the

bright blue sky, but partly because its etymological meaning was obscured, partly through the more active poetry and worship of certain Rishis, this name gained a complete ascendancy over that of Dyu, and nearly extinguished the memory in India of one of the earliest, if not *the* earliest, name by which the Aryans endeavoured to express their first conception of the Deity. Originally, however—and this is one of the most important discoveries which we owe to the study of the Veda—originally Dyu was the bright heavenly deity in India as well as in Greece.

Let us examine, first, some passages of the Veda in which dyu is used as an appellative in the sense of sky. We read (Rigveda, i. 161, 14): 'The Maruts (storms) go about in the sky, Agni (fire) on earth, the wind goes in the air; Varuna goes about in the waters of the sea,' &c. Here dyu means the sky, as much as prithivî means the earth, and antariksha the air. The sky is frequently spoken of together with the earth, and the air is placed between the two (antariksha). We find expressions such as *heaven and earth*;[1] *air and heaven*;[2] and *heaven, air, and earth.*[3] The sky, dyu, is called the third, as compared with the earth, and we meet in the Atharva-Veda with expressions such as 'in the third heaven from hence.'[4] This, again, gave rise to the idea of three heavens.[5] 'The heavens,'

[1] Rigveda, i. 39, 4: nahí .... ádhi dyávi ná bhúmyâm.
[2] Rigveda, vi. 52, 13: antárikshe .... dyávi.
[3] Rigveda, viii. 6, 15: ná dyávah índram ójasâ ná antárikshâni vajrínam ná vivyakanta bhúmayah.
[4] Ath.-Veda, v. 4, 3: trítîyasyâm itáh divi (fem.).
[5] See Rigveda-Sanhitâ, translated by M. M., vol. i. p. 36.

we read, 'the air, and the earth (all in the plural) cannot contain the majesty of Indra'; and in one passage the poet prays that his glory may be 'exalted as if heaven were piled on heaven.'[1]

Another meaning which belongs to dyu in the Veda is day.[2] So many suns are so many days, and even in English *yestersun* was used instead of *yesterday* as late as the time of Dryden. Dívâ, an instrumental case with the accent on the first syllable, means by day, and is used together with náktam,[3] by night. Other expressions, such as divé dive, dyávi dyavi, or ánu dyûn, are of frequent occurrence to signify day by day.[4]

But besides these two meanings, Dyu clearly conveys a different idea as used in some few verses of the Veda. There are invocations in which the name of Dyu stands first, and where he is invoked together with other beings who are always treated as gods. For instance (Rigveda, vi. 51, 5):—

'Dyaus (Sky), father, and Prithivî (Earth), kind mother, Agni (Fire), brother, ye Vasu's (Bright ones), have mercy upon us!'[5]

[1] Rigveda, vii. 24, 5: diví iva dyấm ádhi naḥ srómatam dhâḥ.

[2] Rigveda, vi. 24, 7: ná yám *ga*ranti *sa*rádaḥ ná mấsâḥ ná dyávaḥ índram avakarsáyanti. ('Him whom harvests do not age, nor moons; Indra, whom days do not wither.')

Rigveda, vii. 66, 11: ví yé dadhúḥ *sa*rádam mấsam ất áhar.

[3] Rigveda, i. 139, 5.

[4] Rigveda, i. 112, 25: dyúbhiḥ aktúbhiḥ pári pâtam asmấn. ('Protect us by day and by night, ye Asvin.')

[5] Dyaùs pítar *pri*thivi mấtar ádhruk.
Ζεῦ(s), *πάτερ πλατεῖα μῆτερ ἀτρεκ(ές)*.
Ágne bhrấtar vasavaḥ m*ri*láta naḥ.
Ignis frater ——— be mild nos.

Here Sky, Earth, and Fire are classed together as divine powers, but Dyaus, it should be remarked, occupies the first place. This is the same in other passages where a long list of gods is given, and where Dyaus, if his name is mentioned at all, holds always a prominent place.[1]

It should further be remarked that Dyaus is most frequently called pitar or *father*, so much so that Dyaushpitar in the Veda becomes almost as much one word as Jupiter in Latin. In one passage (i. 191, 6), we read, 'Dyaus is father, Prithivî, the earth, your mother, Soma your brother, Aditi your sister.' In another passage (iv. 1, 10), he is called Dyaus, the father, the creator.[2]

We now have to consider some still more important passages in which Dyu and Indra are mentioned together as father and son, like *Kronos* and *Zeus*, only that in India Dyu is the father, Indra the son; and Dyu has at last to surrender his supremacy which *Zeus* in Greek retains to the end. In a hymn addressed to Indra, and to Indra as the most powerful god, we read (Rv. iv. 17, 4): 'Dyu, thy parent, was reputed strong, the maker of Indra was mighty in his works; he (who) begat the heavenly Indra, armed with the thunderbolt, who is immoveable, as the earth, from his seat.'

Here, then, Dyu would seem to be above Indra,

[1] Rigveda, i. 136, 6: Námaḥ Diváe bṛíhaté ródasibhyâm; then follow Mitrá, Váruṇa, Índra, Agní, Aryamán, Bhága. Cf. vi. 50, 13: Dyaúḥ devébhiḥ pṛithivî́ samudraíḥ. Here, though Dyaus does not stand first, he is distinguished as being mentioned at the head of the devas, or bright gods.

[2] Dyaúsh pitấ ganitấ. Ζεύς, πατήρ, γενετήρ.

just as Zeus is above Apollo. But there are other passages in this very hymn which clearly place Indra above Dyu, and thus throw an important light on the mental process which made the Hindus look on the son, on Indra,[1] the *Jupiter pluvius*, the conquering light of heaven, as more powerful, more exalted, than the bright sky from whence he arose. The hymn begins with asserting the greatness of Indra, which even heaven and earth had to acknowledge; and, at Indra's birth, both heaven and earth are said to have trembled. Now heaven and earth, it must be remembered, are, mythologically speaking, the father and mother of Indra, and if we read in the same hymn that Indra 'does not regard his mother much, nor his father who begat him,'[2] this can only be meant to express the same idea, namely, that the active god who resides in the sky, who rides on the clouds, and hurls his bolt at the demons of darkness, impresses the mind of man at a later time more powerfully than the serene expanse of heaven and the wide earth beneath. Yet Dyu also must formerly have been conceived as a more active, I might

[1] Indra, a name peculiar to India, admits of but one etymology, i. e. it must be derived from the same root, whatever that may be, which in Sanskrit yielded indu, drop, sap. It meant originally the giver of rain, the Jupiter pluvius, a deity in India more often present to the mind of the worshipper than any other. Cf. Benfey, *Orient und Occident*, vol. i. p. 49.

[2] iv. 17, 12: Kíyat svit Índraḥ ádhi eti mâtúḥ Kíyat pitúḥ *ga*[illegible]úḥ yáḥ *gagâna*. In a hymn of the last Mandala, x. 54, 3, Vâyu is said to have from his own body produced together his father and mother. Cf. J. Muir, *Transactions of the Royal Society of Edinburgh*, xxiii. part 3, 552. Sâyana explains the father and mother of Indra as Heaven and Earth, and refers to a Vedic passage in support of this view.

say, a more dramatic god, for the poet actually compares Indra, when destroying his enemies, with Dyu, wielding the thunderbolt.[1]

If with this hymn we compare passages of other hymns, we see even more clearly how the idea of Indra, the conquering hero of the thunderstorm, led with the greatest ease to the admission of a father who, though reputed strong before Indra, was excelled in prowess by his son. If the dawn is called divigâh, born in the sky, the very adjective would become the title-deed to prove her the daughter of Dyu; and so she is called. The same with Indra. He rose from the sky; hence the sky was his father. He rose from the horizon where the sky seems to embrace the earth; hence the earth must be his mother. As sky and earth had been invoked before as beneficent powers, they would the more easily assume the paternity of Indra; though even if they had not before been worshipped as gods, Indra himself, as born of heaven and earth, would have raised these parents to the rank of deities. Thus *Kronos* in the later Greek mythology, the father of Zeus, owes his very existence to his son, namely, to Zeus *Kronion*, Kronion meaning originally the son of time, or the ancient of days.[2] *Uranos*, on the contrary, though suggested by *Uranion*, the heavenly, had evidently, like Heaven and Earth, enjoyed an independent existence before

[1] iv. 17, 13: vibhañganúh asánimân iva dyaúh.

[2] Welcker, *Griechische Götterlehre*, p. 144. Zeus is also called *Kronios*. *Ibid.* pp. 150, 155, 158. *Chips*, vol. ii. p. 155. Zeus only called Κρονίδης in Homer, not Hades or Poseidon. He is never technically the son of Rhea, though Rhea, as the mother of the brothers, is mentioned. *Il.* xv. 187.

he was made the father of Kronos, and the grandfather of Zeus; for we find his prototype in the Vedic god Varuṇa. But while in India Dyu was raised to be the father of a new god, Indra, and by being thus raised became really degraded, or, if we may say so, shelved, Zeus in Greece always remained the supreme god, till the dawn of Christianity put an end to the mythological phraseology of the ancient world.

We read, i. 131, 1:[1]

'Before Indra the divine Dyu bowed, before Indra bowed the great Pṛithivî.'

Again, i. 61, 9:[2] 'The greatness of Indra indeed exceeded the heaven (i.e. dyaus), the earth, and the sky.'

i. 54, 4:[3] 'Thou hast caused the top of heaven (of dyaus) to shake.'

Expressions like these, though no doubt meant to realise a conception of natural phenomena, were sure to produce mythological phraseology, and if in India Dyu did not grow to the same proportions as Zeus in Greece, the reason is simply that dyu retained throughout too much of its appellative power, and that Indra, the new name and the new god, absorbed all the channels that could have supported the life of Dyu.[4]

Let us see now how the same conception of Dyu,

[1] Índrâya hí dyaúḥ ásuraḥ ánamnata índrâya mahî́ pṛithivî́ várîmabhiḥ.

[2] Asyá ít evá prá ririche mahitvám diváḥ pṛithivyáḥ pári antárikshât.

[3] Tvám diváḥ bṛihatáḥ sā́nu kopayaḥ.

[4] Cf. Buttmann, *Ueber Apollon und Artemis, Mythologus*, i. p. 8.

as the god of light and heaven, grew and spread in Greece. And here let us observe what has been pointed out by others, but has never been placed in so clear a light as of late by M. Bertrand in his lucid work, *Sur les Dieux Protecteurs* (1858),—that whereas all other deities in Greece are more or less local or tribal, Zeus was known in every village and to every clan. He is at home on Ida, on Olympus, at Dodona. While Poseidon drew to himself the Æolian family, Apollo the Dorian, Athene the Ionian, there was one more powerful god for all the sons of Hellen, Dorians, Æolians, Ionians, Achæans, the Panhellenic Zeus. That Zeus meant sky we might have guessed, perhaps, even if no traces of the word had been preserved in Sanskrit. The prayer of the Athenians—

ὗσον ὗσον, ὦ φίλε Ζεῦ, κατὰ τῆς ἀρούρας τῶν Ἀθηναίων καὶ τῶν πεδίων ;

('Rain, rain, O dear Zeus, on the land of the Athenians and on the fields!')

is clearly addressed to the sky, though the mere addition of 'dear,' in 'O dear Zeus,' is sufficient to change the sky into a personal being.

The original meaning of *Zeús* might equally have been guessed from such words as *Diosēmía*, portents in the sky, i.e. thunder, lightning, rain; *Diipétēs*, swollen by rain, *lit.* fallen from heaven; *éndĭos*, in the open air, or at midday; *eúdĭos*, calm, *lit.* well-skyed, and others. In Latin, too, *sub Jove frigido*,[1] under

[1] Hor. *Od.* i. 1, 25. Pott, *Et. Forsch.* ii. 2, p. 953. *Jupiter uvidus*, Virg. *Georg.* i. 418; *madidus*, Mart. vii. 36, 1.

the cold sky, *sub diu*, *sub dio*, and *sub divo*,[1] under the open sky, are palpable enough.[2]

But then it was always open to say that the ancient names of the gods were frequently used to signify either their abodes or their special gifts—that *Neptunus*, for instance, was used for the sea, *Pluto* for the lower regions, *Jupiter* for the sky, and that this would in no way prove that these names originally meant sea, lower world, and sky. Thus Nævius said, *Cocus edit Neptunum, Venerem, Cererem*, meaning, as Festus tells us, by Neptune fishes, by Venus vegetables, by Ceres bread.[3] Minerva is used both for mind in *pingui Minerva* and for threads of wool.[4] When some ancient philosophers, as quoted by Aristotle, said that Zeus rains not in order to increase the corn, but from necessity,[5] this no doubt shows that these early positive philosophers looked upon Zeus as the sky, and not as a free personal divine being; but again it would leave it open to suppose that they transferred the old divine name of Zeus to the sky, just as Ennius, with the full consciousness of the philosopher, exclaimed, 'Aspice hoc sublime candens quem invocant omnes Jovem.'[6] An expression like this is the result of later reflection, and it would in no way prove that either Zeus or Jupiter were meant originally for the sky.

[1] Virg. *Georg.* iii. 435.

[2] 'Dium fulgur appellabant diurnum quod putabant Jovis, ut nocturnum Summani.'—Festus, p. 57.

[3] Festus, p. 45.

[4] Arnobius, v. 45.

[5] Grote, *History of Greece*, i. 501, 539.

[6] Vahlen, *Enniancæ Poesis Reliquiæ*: Leipzig, 1854, p. 142.

A Greek at the time of Homer would have scouted the suggestion that he, in saying *Zeús*, meant no more than sky. By Zeus the Greeks meant more than the visible sky, more even than the sky personified. With them the name Zeus was, and remained, in spite of all mythological obscurations, the name of the Supreme Deity; and even if they remembered that originally it meant sky, this would have troubled them as little as if they remembered that *thymos*, mind, meant originally blast. Dyaus or sky was but one out of many names which for a time satisfied that universal yearning for a name that pervades the history of all religions. What we know as the prayer of Jacob, 'Tell me, I pray thee, thy name,'[1] and as the question of Moses, 'What shall I say unto them if they shall say to me, What is his name?'[2] must at an early time have been the question and the prayer of every nation on earth. The name itself, whatever its original meaning might have been, soon acquired a sacred character. The Jews did not think it right to pronounce it; the Romans kept their own name secret, that strangers might not know it, and invoke their tutelary genius by his right name.

We can hardly doubt that the statement of Herodotus (ii. 52) rests on theory rather than fact, yet even as a theory the tradition that the Pelasgians for a long time offered prayer and sacrifice to the gods, without having names for any one of them, is curious. Lord Bacon states the very opposite of the

[1] *Genesis* xxxii. 29. [2] *Exodus* iii. 13.

West Indians, namely, that they had names for each of their gods, but no word for god.[1]

As soon as man becomes conscious of himself, as soon as he perceives himself as distinct from all other things and persons, he at the same moment becomes conscious of a Higher Self, a higher power, without which he feels that neither he nor anything else would have any life or reality. We are so fashioned—and it is no merit of ours—that as soon as we awake, we feel on all sides our dependence on something else, and all nations join in some way or other in the words of the Psalmist, 'It is He that hath made us, and not we ourselves.' This is the first *sense* of the Godhead, the *sensus numinis* as it has been well called; for it is a *sensus*—an immediate perception, not the result of reasoning or generalising, but an intuition as irresistible as the impressions of our senses. In receiving it we are passive, at least as passive as in receiving from above the image of the sun, or any other impressions of the senses; whereas in all our reasoning processes we are active rather than passive. This *sensus numinis*, or, as we may call it in more homely language, *faith*, is the source of all religion; it is that without which no religion, whether true or false, is possible. But what name could be assigned to it?

Tacitus[2] tells us that the Germans applied the names of gods to that hidden thing which they perceived by reverence alone. The same in Greece. But in giving to the object of the *sensus numinis* the name

[1] On nameless gods, see *Gifford Lectures*, vol. i. p. 225, n.

[2] *Germania*, 9: 'Deorumque nominibus appellant secretum illud quod sola reverentia vident.'

of *Zeus*, the fathers of Greek religion were fully aware that they meant more than sky. The high and brilliant sky has in many languages and many religions[1] been regarded as the abode of God, and the name of the abode might easily be transferred to him who abides in Heaven. Aristotle (*De Cœlo*, i. 1, 3) remarks that 'all men have a suspicion of gods, and all assign to them the highest place.' And again (*l. c.*, i. 2, 1) he says, 'The ancients assigned to the gods heaven and the space above, because it was alone eternal.' The slaves, as Procopius states,[2] worshipped at one time one god only, and he was the maker of the lightning. *Perkunas*, in Lituanian, the god of the thunderstorm, is used synonymously with *deivaitis*, deity. In Chinese *Tien* means sky and day; and the same word, like the Aryan *Dyu*, is recognised in Chinese as the name of God. Many have been the controversies between theologians and philosophers in China as to what was really meant by that name. Even though, by an edict of the Pope in 1715, Roman Catholic missionaries were prohibited from using *Tien* as the name for God, and ordered to use *Tien chu*, Lord of heaven, instead, language has proved more powerful than the Pope. In the Tataric and Mongolic dialects, *Tengri*, possibly derived from the same source as *Tien*, signifies (1) heaven, (2) the God of heaven, (3) God in general, or good and evil spirits.[3] The same meanings are ascribed by

[1] See Carrière, *Die Kunst im Zusammenhang der Culturentwickelung*, p. 49.

[2] Welcker, *l. c.* i. 137, 166. Proc. *de Bello Gothico*, 3, 14.

[3] Castrèn, *Finnische Mythologie*, p. 14. Welcker, *Griechische Götterlehre*, p. 130. Klaproth, *Sprache und Schrift der Uiguren*, p. 9.

Castrèn to the Finnish word *Jumala*, thunderer.[1] Nay, even in our own language, 'heaven' may still be used almost synonymously with God. The prodigal son, when he returns to his father, says, 'I will arise and go to my father, and will say unto him, Father, I have sinned against heaven and before thee.'[2]

Whenever we thus find the name of heaven used for God, we must bear in mind that those who originally adopted such a name were transferring that name from one object, visible to their bodily eyes, to another object grasped by another organ of knowledge, by the vision of the soul. Those who at first called God Heaven had something within them that they wished to call—the growing image of God; those who at a later time called Heaven God, had forgotten that they were predicating of Heaven something that was higher than Heaven.

Zeus, the Supreme God.

That Zeus was originally to the Greeks the Supreme God, the true God—nay, at some times their only God—can be perceived in spite of the haze which mythology has raised around his name.[3] But this is very different from saying that Homer believed in one supreme, omnipotent, and omniscient being, the creator and ruler of the world. Such an assertion

Böhtlingk, *Die Sprache der Jakuten, Wörterbuch*, p. 90, s. v. 'tagara.' Kowalewski, *Dictionnaire Mongol-Russe-Français*, t. iii. p. 1763. See M. M., *Introduction to the Science of Religion*, 1870, p. 40.

[1] Castrèn, *l. c.* p. 24.

[2] *Luke* xv. 18.

[3] Cf. Welcker, p. 129 *seq.*

would require considerable qualification. The Homeric Zeus is full of contradictions. He is the subject of mythological tales, and the object of religious adoration. He is omniscient, yet he is cheated; he is omnipotent, and yet defied; he is eternal, yet he has a father; he is just, yet he is guilty of crime. Now these very contradictions ought to teach us a lesson. If all the conceptions of Zeus had sprung from one and the same source, these contradictions could not have existed. If Zeus had simply meant God, the Supreme God, he could not have been the son of Kronos or the father of Minos. If, on the other hand, Zeus had been a merely mythological personage, such as Eos, the dawn, or Helios, the sun, he could never have been addressed as he is addressed in the famous prayer of Achilles.[1] In looking through Homer and other Greek writers, we have no difficulty in collecting a number of passages in which Zeus is clearly conceived as their supreme God. For instance, the ancient song of the Peleiæ or Peleiades at Dodona,[2] the oldest sanctuary of Zeus, was: 'Zeus was, Zeus is, Zeus will be, oh great Zeus. The earth sends forth her fruit, therefore call the earth mother!' There is little or no trace of mythology in this. In Homer,[3] Zeus is called 'the father, the most glorious, the

[1] 'O lord Zeus, thou of Dodona, worshipped by the Pelasgians, dwelling far away, yet caring for the storm-lashed Dodona,—and round there dwell the Selli, thy prophets, with unwashen feet, sleeping on the earth! Truly thou hast before heard my voice when I prayed to thee; and thou hast conferred honour upon me, and hast mightily smitten the people of the Achaii: oh, fulfil thou now also this my desire.' *Il.* xvi. 233–238.

[2] Welcker, p. 143. Paus. x. 12, 10. See *supra*, p. 435.

[3] Welcker, p. 176.

greatest, who rules over all, mortals and immortals.' He is the counsellor, whose counsels the other gods cannot fathom (*Il.* i. 545). His power is the greatest (*Il.* ix. 25),[1] and it is he who gives strength, wisdom, and honour to man. The mere expression, 'father of gods and men,' so frequently applied to Zeus and to Zeus alone, would be sufficient to show that the religious conception of Zeus was never quite forgotten, and that in spite of the various Greek legends on the creation of the human race, the idea of Zeus as the father and creator of all things, but more particularly as the father and creator of man, was never quite extinct in the Greek mind. It breaks forth in the unguarded language of Philœtios in the Odyssey, who charges Zeus[2] that he does not pity men *though it was he who created them*; and in the philosophical view of the universe put forth by Kleanthes or by Aratos it assumes that very form under which it is known to us, from the quotation of St. Paul, '*For we are also his offspring.*' Likeness with God (*homoiótēs theô*) was the goal of Pythagorean ethics,[3] and according to the author of *De Mundo*, it was an old saying that everything exists from God and through God.[4] All the greatest poets after Homer know of Zeus as the highest god, as the true god. 'Zeus,' says Pindar,[5]

[1] 'Jupiter omnipotens regum rerumque deûmque
Progenitor genitrixque deûm.'
Valerius Soranus, in Aug., *De Civ. Dei*, vii. 10.

[2] *Od.* xx. 201:
Ζεῦ πάτερ, οὔ τις σεῖο θεῶν ὀλοώτερος ἄλλος·
οὐκ ἐλεαίρεις ἄνδρας ἐπὴν δὴ γείνεαι αὐτός.

[3] Cic. *Leg.* i. 8. Welcker, *Griechische Götterlehre*, i. 249.

[4] *De Mundo*, 6. Welcker, *Griechische Götterlehre*, vol. i. p. 240.

[5] Pind. *Fragm.* v. 6. Bunsen, *Gott in der Geschichte*, ii. 351. *Ol.* 13, 12.

'obtained something more than what the gods possessed.' He calls him the eternal father, and he claims for man a divine descent.

One (he says) is the race of men,[1] one that of the gods. We both breathe from one mother; but our powers, all sundered, keep us apart, so that the one is nothing, while the brazen heaven, the immoveable seat, endureth for ever. Yet even thus we are still, whether by greatness of mind or by form, like unto the immortals, though we know not to what goal, either by day or by night, destiny has destined us to haste on.

For the children of the day, what are we, and what not? Man is the dream of a shadow. But if there comes a ray sent from Zeus, then there is for men bright splendour and a cheerful life.[2]

Æschylus again leaves no doubt as to his real view of Zeus. His Zeus is a being different from all other gods. 'Zeus,' he says, in a fragment,[3] 'is the earth, Zeus the air, Zeus the sky, Zeus is all and what is above all.' 'All was done for the gods,' he says, 'except to be lords, for free is no one but Zeus.'[4]

[1] Pind. *Nem.* vi. 1 (cf. xi. 43; xii. 7):

Ἓν ἀνδρῶν, ἓν θεῶν γένος· ἐκ μιᾶς δὲ πνέομεν
ματρὸς ἀμφότεροι· διείργει δὲ πᾶσα κεκριμένα
δύναμις, ὡς τὸ μὲν οὐδέν, ὁ δὲ χάλκεος ἀσφαλὲς αἰὲν ἕδος
μένει οὐρανός. ἀλλά τι προσφέρομεν ἔμπαν ἢ μέγαν
νόον ἤτοι φύσιν ἀθανάτοις,
καίπερ ἐφαμερίαν οὐκ εἰδότες οὐδὲ μετὰ νύκτας ἄμμι πότμος
οἵαν τιν' ἔγραψε δραμεῖν ποτὶ στάθμαν.

[2] Pind. *Pyth.* viii. 95:

Ἐπάμεροι· τί δέ τις; τί δέ οὔ τις; σκιᾶς ὄναρ
ἄνθρωπος. ἀλλ' ὅταν αἴγλα διόσδοτος ἔλθῃ,
λαμπρὸν φέγγος ἔπεστιν ἀνδρῶν
καὶ μείλιχος αἰών.

[3] Cf. Carrière, *Die Kunst*, vol. i. p. 79.

[4] *Prom. vinctus*, 49:

ἅπαντ' ἐπράχθη πλὴν θεοῖσι κοιρανεῖν,
ἐλεύθερος γὰρ οὔτις ἐστὶ πλὴν Διός.

He calls him the lord of infinite time;[1] nay, he knows that the name Zeus[2] is but indifferent, and that behind that name there is a power greater than all names. Thus the Chorus in the Agamemnon says:

Zeus, whoever he is, if this be the name by which he loves to be called—by this name I address him. For, if I verily want to cast off the idle burden of my thought, proving all things, I cannot find one on whom to cast it, except Zeus only.

For he who before was great, proud in his all-conquering might, he is not cared for any more; and he who came after, he found his victor and is gone. But he who sings wisely songs of victory for Zeus, he will find all wisdom. For Zeus leads men in the way of wisdom, he orders that suffering should be our best school. Nay, even in sleep there flows from the heart suffering reminding us of suffering, and wisdom comes to us against our will.

One more passage from Sophocles,[3] to show how with him too Zeus is, in true moments of anguish and religious yearning, the same being whom we call God. In the 'Electra,' the Chorus says:

Courage, courage, my child! There is still in heaven the great Zeus, who watches over all things and rules. Commit thy exceeding bitter grief to him, and be not too angry against thy enemies, nor forget them.

[1] *Supplices*, 574: Ζεὺς αἰῶνος κρέων ἀπαύστου.

[2] Kleanthes, in a hymn quoted by Welcker, ii. p. 193, addresses Zeus

Κύδιστ' ἀθανάτων, πολυώνυμε, παγκρατὲς αἰεί, χαῖρε Ζεῦ.

'Most glorious among immortals, with many names, almighty always, hail to thee, Zeus!'

[3] *Electra*, v. 188:

θάρσει μοι, θάρσει, τέκνον.
ἔτι μέγας οὐρανῷ
Ζεύς, ὃς ἐφορᾷ πάντα καὶ κρατύνει·
ᾧ τὸν ὑπεραλγῆ χόλον νέμουσα,
μήθ' οἷς ἐχθαίρεις ὑπεράχθεο μήτ' ἐπιλάθου.

Zeus, the Sky personified.

But while in passages like these the original conception of Zeus as the true god, the god of gods, preponderates, there are innumerable passages in which Zeus is clearly the sky personified, and hardly differs from other deities, such as the sun-god or the goddess of the moon. The Greek was not aware that there were different tributaries which entered from different points into the central idea of Zeus. To him the name Zeus conveyed but one idea, and the contradictions between the divine and the natural elements in his character were slurred over by all except the few who thought for themselves, and who knew, with Pindar, that no legend, no sacred myth, could be true that reflects discredit on a divine being. But to us it is clear that the story of Zeus descending as golden rain into the prison of Danaë was meant for the bright sky delivering the earth from the bonds of winter, and awakening in her a new life by the golden showers of spring. Many of the stories that are told about the love of Zeus for human or half-human heroines have a similar origin. The idea which we express by the phrase, 'King by the grace of God,' was expressed in ancient language by calling kings the descendants of Zeus.[1] This simple and natural conception gave rise to innumerable local legends. Great families and whole tribes claimed Zeus for their ancestor; and as it was necessary in

[1] *Il.* ii. 445, διοτρεφέες. *Od.* iv. 691, θεῖοι. Callim. *Hym. in Jovem*, 79, ἐκ Διὸς βασιλῆες. Bertrand, *Dieux Protecteurs*, p. 157. Kemble, *Saxons in England*, i. p. 335. Cox, *Tales of Thebes and Argos*, 1864, Introduction, p. i.

each case to supply him with a wife, the name of the country was naturally chosen to supply the wanting link in these sacred genealogies. Thus *Æacus*, the famous king of Ægina, was fabled to be the offspring of Zeus. This need not have meant more than that he was a powerful, wise, and just king. But it soon came to mean more. Æacus was fabled to have been really the son of Zeus, and Zeus is represented as carrying off Ægina and making her the mother of Æacus.

The Arcadians (Ursini) derived their origin from *Arkas*; their national deity was Kallisto, another name for Artemis.[1] What happens? *Arkas* is made the son of *Zeus* and *Kallisto*; though, in order to save the good name of Artemis, the chaste goddess, *Kallisto* is here represented as one of her companions only. Soon the myth is spun out still further. Kallisto is changed into a bear by the jealousy of Here. She is then, after having been killed by Artemis, identified with Arktos, the Great Bear, for no better reasons than the Virgin was identified in later times with the zodiacal sign of Virgo.[2] And if it be asked why the constellation of the Bear never sets, an answer was readily given—the wife of Zeus had asked Okeanos and Thetis not to allow her rival to contaminate the pure waters of the sea.

It is said that *Zeus*, in the form of a bull, carried off *Europa*. This means no more, if we translate it back into Sanskrit, than that the strong rising sun (*vrishan*) carries off the wide-shining dawn. This

[1] Müller, *Dorier*, i. 372. Jacobi, s. v. *Kallisto*.
[2] Maury, *Légendes pieuses*, p. 39, n.

story is alluded to again and again in the Veda. Now *Minos*, the ancient king of Crete, required parents; so Zeus and Europa were assigned to him.

There was nothing that could be told of the sky that was not in some form or other ascribed to Zeus. It was Zeus who rained, who thundered, who snowed, who hailed, who sent the lightning, who gathered the clouds, who let loose the winds, who held the rainbow. It is Zeus who orders the days and nights, the months, seasons, and years. It is he who watches over the fields, who sends rich harvests, and who tends the flocks.[1] Like the sky, Zeus dwells on the highest mountains; like the sky, Zeus embraces the earth; like the sky, Zeus is eternal, unchanging, the highest god.[2] For good or for evil, Zeus the sky and Zeus the god are wedded together in the Greek mind, language triumphing over thought, tradition over religion.

And strange as this mixture may appear, incredible as it may seem that two ideas like god and sky should have run into one, and that the atmospheric changes of the air should have been mistaken for the acts of Him who rules the world, let us not forget that not in Greece only, but everywhere, where we can watch the growth of early language and early religion, the same, or nearly the same, phenomena may be observed. The Psalmist says (xviii. 6), 'In my distress I called upon the Lord, and cried unto my God: he heard my

[1] Welcker, p. 169.

[2] Bunsen, *Gott in der Geschichte*, ii. 352: 'Gott vermag aus schwarzer Nacht zu erwecken fleckenlosen Glanz, und mit schwarzlockigem Dunkel zu verhüllen des Tages reinen Strahl.'—Pindar, *Fragm.* 3.

voice out of his temple, and my cry came before him, even into his ears.'

7. Then the earth shook and trembled; the foundations also of the hills moved and were shaken, because he was wroth.

8. There went up smoke out of his nostrils, and fire out of his mouth devoured: coals were kindled by it.

9. He bowed the heavens also, and came down: and darkness was under his feet.

10. And he rode upon a cherub, and did fly: yea, he did fly upon the wings of the wind.

13. The Lord also thundered in the heavens, and the Highest gave his voice; hailstones and coals of fire.

14. Yea, he sent out his arrows, and scattered them; and he shot out lightnings, and discomfited them.

15. Then the channels of waters were seen, and the foundations of the world were discovered at thy rebuke, O Lord, at the blast of the breath of thy nostrils.

Even the Psalmist in his inspired utterances must use our helpless human language, and condescend to the level of human thought. Well is it for us if we always remember the difference between what is said and what is meant, and if, while we pity the heathen for worshipping stocks and stones, we are not ourselves kneeling down before the frail images of human fancy.[1]

Was Dyaus the result of Radical or Poetical Metaphor?

And now, before we leave the history of Dyu, we must ask one more question, though one which it is difficult to answer. Was it by the process of *radical* or *poetical* metaphor that the ancient Aryans, before they separated, spoke of dyu, the sky, and dyu, the

[1] Dion Chrysostomus, 12, p. 404. Welcker, *Griechische Götterlehre*, i. p. 246.

god? i.e. was the object of the *sensus luminis*, the sky, called dyu, light, and the object of the *sensus numinis*, God, called dyu, light, by two independent acts; or was the name of the sky, dyu, transferred ready-made to express the growing idea of God, living in the highest heaven?[1] Either is possible. The latter view could be supported by several analogies, which we examined before, and where we found that names expressive of sky had clearly been transferred to the idea of the Godhead, or, as others would put it, had gradually been purified and sublimised to express that idea. There is no reason why this should not be admitted. Each name is in the beginning imperfect, it necessarily expresses but one side of its object, and in the case of the names of God the very fact of the insufficiency of one single name would lead to the creation or adoption of new names, each expressive of a new quality that was felt to be essential and useful for recalling new phenomena in which the presence of the Deity had been discovered. The unseen and incomprehensible Being that had to be named was perceived in the wind, in the earthquake, and in the fire, long before it was recognised in the still small voice within. From every one of these manifestations the divine *secretum illud quod solâ reverentiâ vident* might receive a name, and as long as each of these names was felt to be but a name, no harm was done. But names have a tendency to

[1] Festus, p. 32: 'Lucetium Jovem appellabant quod eum lucis esse causam credebant.' Macrob. *Sat.* i. 15: 'unde et Lucetium Salii in carmine canunt, et Cretenses Δία τὴν ἡμέραν vocant, ipsi quoque Romani Diespitrem appellant, ut diei patrem.' Gell. v. 12, 6. Hartung, *Religion der Römer*, ii. 9.

become things, *nomina* grew into *numina*, *ideas* into *idols*, and if this happened with the name Dyu, no wonder that many things which were intended for Him who is above the sky were mixed up with sayings relating to the sky.

Much, however, may be said in favour of the other view. We may explain the synonymousness of sky and God in the Aryan languages by the process of radical metaphor. Those who believe that all our ideas had their first roots in the impressions of the senses, and that nothing original came from any other source, would naturally adopt the former view, though they would on reflection find it difficult to explain how the sensuous impressions left by the blue sky, or the clouds, or the thunder and lightning, should ever have yielded an essence distinct from all these fleeting phenomena—how the senses by themselves should, like Juno in her anger, have given birth to a being such as had never been seen before. It may sound like mysticism, but it is nevertheless perfectly rational to suppose that there was in the beginning the perception of what Tacitus calls *secretum illud*, and that this secret and sacred thing was at the first burst of utterance called Dyu, the light, without any special reference to the bright sky. Afterwards, the bright sky being called for another reason Dyu, the light, the mythological process would be equally intelligible that led to all the contradictions in the fables of Zeus. The two words dyu, the inward light, and dyu, the sky, became, like a double star, one, defying the vision and division even of the most powerful lenses. Whenever the word was pronounced,

all its meanings, light, god, sky, and day, vibrated together, and the bright Dyu, the god of light, was lost in the Dyu of the sky. If Dyu meant originally the bright Being, the light, the god of light, and was intended, like asura, as a name for the Divine, unlocalised as yet in any part of nature, we shall appreciate all the more easily its applicability to express, in spite of ever-shifting circumstances, the highest and the universal God. Thus, in Greek, Zeus is not only the lord of heaven, but likewise the ruler of the lower world, and the master of the sea.[1] But though recognising in the name of Zeus the original conception of light, we ought not to deceive ourselves and try to find in the primitive vocabulary of the Aryans those sublime meanings which after many thousands of years their words have assumed in our languages. The light which flashed up for the first time before the inmost vision of their souls, was not the pure light of which St. John speaks. We must not mix the words and thoughts of different ages. Though the message which St. John sent to his little children, 'God is light, and in him is no darkness at all,'[2] may remind us of something similar in the primitive annals of human language; though we may highly value the coincidence, such as it is, between the first stammerings of religious life and the matured language of the world's manhood; yet it behoves us, while we compare, to discriminate likewise, and to remember

[1] Welcker, *Griechische Götterlehre*, i. p. 164. *Il.* ix. 457, Ζεύς τε καταχθόνιος. The Old Norse *tyr* is likewise used in this general sense. See Grimm, *Deutsche Mythologie*, p. 178.

[2] *St. John, Ep.* I. i. 5; ii. 7.

always that words and phrases, though outwardly the same, reflect the intentions of the speaker at ever-varying angles.

It was not my intention to enter at full length into the story of Zeus as told by the Greeks, or the story of Jupiter as told by the Romans. This has been done, and well done, in books on Greek and Roman Mythology. All I wished to do was to lay bare before your eyes the first germs of Zeus and Jupiter which lie below the surface of classical mythology, and to show how those germs cling with their fibres to roots that stretch in an uninterrupted line to India—nay, to some more distant centre from which all the Aryan languages proceeded in their world-wide expansion.

The Root Dyu.

It may be useful, however, to dwell a little longer on the curious conglomeration of words which have all been derived from the same root as Zeus. That root in its simplest form is DYU.

DYU, raised by Guṇa to DYO (before vowels dyav);
raised by Vṛiddhi to DYÂU (before vowels dyâv).

DYU, by a change of vowels into semi-vowels, and of semi-vowels into vowels, assumes the form of

DIV, and this is raised by Guṇa to DEV,
by Vṛiddhi to DÂIV.

I shall now examine these roots and their derivatives more in detail, and, in doing so, I shall put

together those words, whether verbal or nominal, which agree most closely in their form, without reference to the usual arrangements of declension and conjugation adopted by practical grammarians.

The root dyu in its simplest form appears as the Sanskrit verb dyu, to spring or pounce on something.[1] In some passages of the Rigveda, the commentator takes dyu in the sense of shining, but he likewise admits that the verbal root may be dyut, not dyu. Thus, Rigveda, i. 113, 14: 'The Dawn with her jewels shone forth (adyaut) in all the corners of the sky; she the bright (devî) opened the dark cloth (the night). She who awakens us comes near, Ushas with her red horses, on her swift car.'

If dyu is to be used for nominal, instead of verbal purposes, we have only to add the terminations of declension. Thus we get with bhis, the termination of the instrumental plural, corresponding to Latin *bus*, dyu-bhis, meaning on all days, *toujours*; or the acc. plural dyûn, in anu dyûn, day after day.

If dyu is to be used as an adverb, we have only to add the adverbial termination *s*, and we get the Sanskrit dyu-s in pûrvedyus, i.e. on a former day, yesterday, which has been compared with *prōïzá*, the day before yesterday. The last element, *za*, certainly seems to contain the root dyu (cf. χθι-ζός, i.e. χθι-διος); but *za* would correspond to Sanskrit dya (as in adya, to-day), rather than to dyus. This dyus, however, standing for an original dyut, ap-

[1] The French *éclater*, originally to break forth, afterwards to shine, shows a similar transition. Cf. Diez, *Lex. Comp.* s. v. 'schiantare.'

pears again in Latin *diû*, by day, as in *noctû diûque*, by night and by day. Afterwards *diû*[1] came to mean a lifelong day, a long while, and then in *diuscule*, a little while, the *s* reappears. This *s* stands for an older *t*, and this *t*, too, reappears in *diutule*, a little while, and in the comparative *diut-ius*, longer (*interdius* and *interdiû*, by day).

In Greek and Latin, words beginning with dy are impossible. Where Sanskrit shows an initial dy, we find in Greek that either *dy* is changed to *z*, or the *y* is dropped altogether, leaving simply *d*.[2] Even in Greek we find that dialects vary between *dia* and *za*; we find Æolic[3] *zabállō*, instead of *diabállō*, and the later Byzantine corruption of *diábolus* appears in Latin as *zabulus*, instead of *diabolus*. Where, in Greek, initial *z* varies dialectically with initial *d*, we shall find generally that the original initial consonants were *dy*. If, therefore, we meet in Greek with two such forms as *Zeús* and Bœotian *Deús*, we may be certain that both correspond to the Sanskrit Dyu, raised by Guna to Dyo. This form, dyo, exists in Sanskrit, not in the nominative singular, which by Vriddhi is raised to Dyâus, nom. plur. Dyâvah, but in such forms as the locative dyávi[4] (for dyo-i), &c.

[1] In *dum*, this day, then, while; in *nondum*, not yet (pas encore, i.e. hanc horam); in *donicum*, *donec*, now that, *lorsque*; and in *denique*, i.e. and now, lastly, the same radical element dyu, in the sense of day, has been suspected; likewise in *biduum*. In Greek δήν (Alcman uses δοάν, i.e. διϝαν), long, δή, now, have been referred to the same source.

[2] See Schleicher, *Zur Vergleichenden Sprachengeschichte*, p. 40.

[3] Mehlhorn, *Griechische Grammatik*, § 110.

[4] The acc. singular *dyâm*, besides *dívam*, is a mere corruption of *dyâvam*, like *gâm* for *gâvam*. The coincidence of *dyâm* with the Greek

In Latin, initial *dy* is represented by *j*; so that *Jû* in *Jûpiter* corresponds exactly with Sanskrit Dyo. *Jŏvis*, on the contrary, is a secondary form, and would in the nominative singular represent a Sanskrit form Dyăvi*h*. Traces of the former existence of an initial *dj* in Latin have been discovered in *Diovis*, according to Varro (*L. L.* v. 10, 20), an old Italian name for Jupiter, that has been met with under the same form in Oscan inscriptions. *Vêjŏvis*, too, an old Italian divinity, is sometimes found spelt *Vêdiŏvis*, dat. *Vediovi*, acc. *Vediovem*.

That the Greek *Zĕn*, *Zênos*, belongs to the same family of words, has never been doubted; but there has been great diversity of opinion as to the etymological structure of the word. I explain *Zēn*, as well as Latin *Jan*, the older form of *Janus*, as representing a Sanskrit dyav-an, formed like Pân, from the root pû, raised to pavan.[1] Now as *yuvan*, jŭvenis, is contracted to *jūn* in *jūnior*, so dyavan would in Latin become *Jan*, following the third declension,[2] or, under a secondary form, *Jān-us*. *Janus-pater*, in Latin, was used as one word, like *Jupiter*. He was likewise called *Junonius* and *Quirinus*,[3] and was, as far as we can judge, another personification of Dyu, the sky, with special reference, however, to morning, the be-

acc. sing. Ζῆν is curious. Cf. Leo Meyer, in Kuhn's *Zeitschrift*, v. 373. Ζεύν also is mentioned as an accusative singular. As to nominatives, such as Ζής and Zás, gen. Ζαντός, they are too little authenticated to warrant any conjectures as to their etymological character. See Curtius, *Grundzüge*, ii. p. 188.

[1] Tertullian, *Apol.* c. 10: 'a Jano vel Jane, ut Salii volunt.' Hartung, *Religion der Römer*, ii. 218. Cf. Kuhn, *Zeitschrift*, vii. p. 80.

[2] See *Chips*, ii. 162.

[3] Gell. v. 12, 5.

ginning of the day (*Janus matutinus*), and later to the spring, the beginning of the year. The month of January owes its name to him. Now as Jū : Zeu = Jān : Zēn, only that in Greek *Zēn* remained in the third or consonantal declension, instead of migrating, as it might have done, under the form *Zēnos, ou*, into the second. The Latin *Jûn-ô, Jun-on-is*, would correspond to a Greek *Zēnōn*, as a feminine.

The second form, DIV, appears in Sanskrit in the oblique cases, gen. *divas*, dat. *dive*, inst. *divâ*, acc. *divam*, &c. For instance (Rv. i. 50, 11), 'O Sun, that risest now, and mountest up to the higher sky (úttarâm dívam, fem.), destroy the pain of my heart and my paleness!'

Rv. i. 54, 3: 'Sing to the mighty Dyu (divé *bri*-haté, masc.) a mighty song.'

Rv. i. 7, 3: 'Indra made the sun rise to the sky (diví), that he might see far and wide; he burst open the rock for the cows.'

These forms are most accurately represented in the Greek oblique case, *DiFós, DiFí, DíFa*.

In Latin the labial semi-vowel, the so-called digamma, ought not to be dropt. It is preserved in *Jovis, Jovem*, in *livinus*, &c., and it is difficult to say why it should have dropt in *Diespiter*, and likewise in *dîum* for *dîvum*, sky, from which *Diâna*, instead of *Divâna*, the heavenly (originally Deiana).

In Sanskrit there are several derivatives of div, such as divá (neuter), sky, or day; divasa (m. n.), sky and day; divya, heavenly; dina (m. n.), day, according to Benfey, stands for divana. In Lituanian we find *diena*. The Latin *duum* in *biduum*

and *triduum*, is the same as Sanskrit divam, while *diês* would correspond to a Sanskrit divas, nom. sing. divâs, masc. *Dinæ* in *nundinæ* corresponds to *dina*.

If, lastly, we raise div by Guna, we get the Sanskrit deva, originally bright, afterwards god. It is curious that this, the etymological meaning of deva, is passed over in the Dictionary of Boehtlingk and Roth. It is clearly passed over intentionally, and in order to show that in all the passages where deva occurs in the Veda it may be translated by god or divine. That it may be so translated would be difficult to disprove; but that there are many passages where the original meaning of bright is more appropriate, can easily be established. Rv. i. 50, 8: 'The seven Harits (horses) carry thee on thy chariot, brilliant (deva) Sun, thee with flaming hair, O far-seeing!' No doubt we might translate the divine Sun; but the explanation of the commentator in this and similar passages seems more natural and more appropriate. What is most interesting in the Veda is exactly this uncertainty of meaning, the half-physical and half-spiritual intention of words such as deva. In Latin *deus* no longer means brilliant, but simply god. The same applies to *diewas* in Lituanian, and to θεός in Greek, whether it comes from the same source or not.

In Sanskrit we can still watch the formation of the general name for deity. The principal objects of the religious poetry of the Vedic bards were those bright beings, the Sun, the Sky, the Day, the Dawn, the Morn, the Spring—who might all be called deva,

brilliant. These were soon opposed to the powers of night and darkness, sometimes called adeva, literally, not bright, then ungodly, evil, mischievous. This contrast between the bright, beneficent, divine, and the dark, mischievous, demoniacal beings, is of very ancient date. Druh,[1] mischief, is used as a name of darkness or the night, and the Dawn is said to drive away the hateful darkness of Druh (vii. 75, 1; see also i. 48, 8; 48, 15; 92, 5; 113, 12). The Âdityas are praised for preserving man from Druh (viii. 47, 1), and Maghavan or Indra is implored to bestow on his worshippers the light of day, after having driven away the many ungodly Druhs (iii. 31, 19: druhâ*h* ví yâhi bahulâ*h* ádevî*h*). 'May he fall into the snares of Druh,' is used as a curse (vii. 59, 8); and in another passage we read, 'The Druhs follow the sins of men' (vii. 61, 5). As the ghastly powers of darkness, the Druh or the Rakshas, are called adeva, so the bright gods are called adruh (vii. 66, 18, Mitra and Varu*n*a).

Deva being thus applied to all the bright and beneficent manifestations in which the Aryans discovered the presence of something supernatural, undecaying, immortal, it became in time the general name for what was shared in common by all the different gods or names of God. It followed, like a shadow, the growth of the purer idea of the Godhead, and when that had reached its highest goal it was almost

[1] See Kuhn, *Zeitschrift*, i. 179 and 193, where θέλγω, τελχίν, ἀτρεκής, Zend *Drukhs*, German *trügen* and *lügen*, are all, with more or less certainty, traced back to druh. In A.S. we find *dreoh-lâ*c*an*, magicians; *dry*, magician (derived by some from the Celtic *dryis*, a Druid, a magician).

the only word which had retained some vitality in that pure but exhausting atmosphere of thought. The Âdityas, the Vasus, the Asuras, and other names, had fallen back in the onward race of the human mind towards the highest conception of the Divine; the Devas alone remained to express *deus*, God. Even in the Veda, where these glimpses of the original meaning of deva, brilliant, can still be caught, deva is likewise used in the same sense in which the Greeks used *theós*. The poet (x. 121, 8) speaks of

> Him who among the gods was alone god.
> Yah deveshu adhi devah ekah âsît.

A last step brings us in Sanskrit to Daiva, derived from deva, and this is used in the later Sanskrit to express fate, destiny.

There is but little to be said about the corresponding words in the Teutonic branch, fragments of which have been collected by that thoughtful scholar, Jacob Grimm.[1] In name the Eddic god *Týr* (gen. *Týs*, acc. *Týr*) answers to the Vedic Dyu, and the Old Norse name for *dies Martis* is *Týsdagr*. Although in the system of the Edda *Odhin* is the supreme god, and *Týr* his son, traces remain to show that in former days *Týr*, the god of war, was worshipped as the principal deity by the Germans.[2] In Anglo-Saxon the name of the god does no longer occur independently, but traces of it have been discovered in *Tiwesdæg*, Tuesday. The same applies to Old High-German, where we find *Ziestac* for the modern *Dien-*

[1] *Deutsche Mythologie*, p. 175.
[2] Grimm, *Deutsche Mythologie*, p. 179.

stag. Kemble points out names of places in England, such as *Tewesley*, *Tewing*, *Tiwes mére*, and *Tewes thorn*, and names of flowers,[1] such as the Old Norse *Týsfiola*, *Týrhjalm*, *Týsvithr*, as containing the name of the god.

Besides this proper name, Grimm has likewise pointed out the Eddic *tîvar*, nom. plur., the gods.

Lastly, whatever may have been said against it, I think that Zeuss and Grimm were right in connecting the *Tuisco* mentioned by Tacitus with the Anglo-Saxon *Tiw*, which, in Gothic, would have sounded *Tiu*.[2] The Germans were considered by Tacitus, and probably considered themselves, as the aboriginal inhabitants of their country. In their poems, which Tacitus calls their only kind of tradition and annals, they celebrated as the divine ancestors of their race, *Tuisco*, sprung from the Earth, and his son *Mannus*. They looked, therefore, like the Greeks, on the gods as the ancestors of the human family, and they believed that in the beginning life sprang from that inexhaustible soil which gives support and nourishment to man, and for which in their simple language they could find no truer name than Mother Earth. It is easy to see that the *Mannus* here spoken of by Tacitus as the son of *Tuisco*, meant originally man, and was derived from the same root *man*, to measure, to think, which in Sanskrit yielded Manu.[3]

[1] Kemble, *Saxons in England*, i. p. 351. These had first been pointed out by Grimm, *Deutsche Mythologie*, p. 180.

[2] See Waitz, *Deutsche Verfassungs-Geschichte*, 2nd ed. vol. i. 1865.

[3] On Manu and Minos, see Kuhn, *Zeitschrift*, iv. 92. The name of Saryâta, the son of Manu, could hardly be compared with *Krêta*. Professor Kern, in his paper on *Tuiscoen Mannus*, takes *Tuisco* for the twilight, *Mannu* for the morning light.

Man, or, in Sanskrit, Manu, or Manus, was the proudest name which man could give to himself, the Measurer, the Thinker, and from it was derived the Old High-German *mennisc*, the Modern German *Mensch*. This *mennisc*, like the Sanskrit manushya, was originally an adjective, a patronymic, if you like: it meant the son of man. As soon as *mennisc* and manushya became in common parlance the recognised words for man, language itself supplied the myth, that Manus was the ancestor of the Manushyas. Now *Tuisco* seems but a secondary form of *Tiu*, followed by the same suffix which we saw in *mennisc*, and without any change of meaning. Then why was *Tuisco* called the father of *Mannu*? Simply because it was one of the first articles in the primitive faith of mankind, that in one sense or other they had a father in heaven. Hence *Mannu* was called the son of *Tuisco*, and this *Tuisco*, as we know, was, originally, the Aryan god of light. These things formed the burden of German songs to which Tacitus listened. These songs they sang before they went to battle, to stimulate their courage, and to prepare to die. To an Italian ear it must have been a wild sound, reverberated from their shields, and hence called *barditus* (shield-song, Old Norse *bardhi*, shield). Many a Roman would have sneered at such poetry and such music. Not so Tacitus. The emperor Julian,[1] when he heard the Germans singing their

[1] Ἐθεασάμην τοι καὶ τοὺς ὑπὲρ τὸν Ῥῆνον βαρβάρους ἄγρια μέλη λέξει πεποιημένα παραπλήσια τοῖς κρωγμοῖς τῶν τραχὺ βοώντων ὀρνίθων ᾄδοντας καὶ εὐφραινομένους ἐν τοῖς μέλεσιν. *Misopogon*, vol. i. p. 337, ed. Leipzig, 1696.

songs on the borders of the Rhine, could compare them to nothing but the shrill cries of birds. Tacitus calls them a shout of valour (concentus virtutis). He likewise mentions (*Ann.* ii. 88) that the Germans still kept up the memory of *Arminius* in their songs, and he describes (*Ann.* ii. 65) their night revellings, where they sang and shouted till the morning called them to fresh battles.

The names which Tacitus mentions, such as Mannus, Tuisco, &c., he could of course repeat by ear only; and if one considers the difficulties of such a task, it is extraordinary that these names, as written down by him, should lend themselves so easily to etymological explanation. Thus Tacitus states not only that *Mannus* was the ancestor of the German race, but he likewise mentions the names of his three sons, or rather the names of the three great tribes, the *Ingævones*, *Iscævones*, and *Herminones*, who derived their origin from the three sons of Mannus. It has been shown that the *Ingævones* derive their name from *Yng*, *Yngo*, or *Ynguio*, who in the Edda and in the Beowulf is mentioned as living first with the Eastern Danes and then proceeding on his car eastward over the sea. There is a northern race, the *Ynglings*, and their pedigree begins with *Yngvi*, *Niörðr*, *Frayr*, *Fiölnir* (Odin), *Svegdir*, all names of divine beings. Another genealogy, given in the *Ynglinga-saga*, begins with *Niörðr*, identifies *Frayer* with *Yngvi*, and derives from him the name of the race.

The second son of *Mannus*, *Isco*, has been identified by Grimm with *Askr*, another name of the first-born man. *Askr* means ash-tree, and it has been supposed

that the name *ash* thus given to the first man came from the same conception which led the Greeks to imagine that one of the races of man sprang from ash-trees (ἐκ μελιᾶν). Alcuin still uses the expression, son of the ash-tree, as synonymous with man.[1] Grimm supposes that the *Iscævones* lived near the Rhine, and that a trace of their name comes out in *Asciburgium* or *Asciburg*, on the Rhine, where, as Tacitus had been wildly informed, an altar had been discovered dedicated to *Ulysses*, and with the name of his father *Laërtes*.[2]

The third son of *Mannus*, *Irmino*, has a name decidedly German. *Irmin* was an old Saxon god, from whom probably both *Arminius* and the *Herminones* derived their names.

The chief interest of these German fables about *Tuisco*, *Mannus*, and his sons, is their religious character. They give utterance to the same sentiment which we find again and again among the Aryan nations, that man is conscious of his descent from heaven and from earth, that he claims kindred with a father in heaven, though he recognises with equal clearness that he is made of the dust of the earth. The Hindus knew it when they called Dyu their father, and Prithivî their mother; Plato[3] knew it when he said that the Earth, as the mother, brought forth men, but God was the shaper; Lucretius knew it when he wrote (ii. 991–95):

[1] Ampère, *Histoire litteraire de la France*, iii. 79.

[2] *Germania*, c. 3.

[3] *Polit.* p. 414: καὶ ἡ γῆ αὐτοὺς μήτηρ οὖσα ἀνῆκε—ἀλλ' ὁ θεὸς πλάττων. Welcker, *Griechische Götterlehre*, i. p. 182. See also J. Muir, *Transactions of the Royal Society of Edinburgh*, vol. xxiii. part 3, p. 552, note.

Denique cœlesti sumus omnes semine oriundi;
Omnibus ille idem pater est, unde alma liquentis
Umoris guttas mater cum terra recepit,
Feta parit nitidas fruges arbustaque læta
Et genus humanum, parit omnia sæcla ferarum;[1]

and the Germans knew it, though Tacitus tells us confusedly that they sang of *Mannus* as the son of *Tuisco*, and of *Tuisco* as sprung from the earth. This is what Grimm says of the religious elements hidden in German mythology:[2]

In our own heathen mythology ideas which the human heart requires before all others, and in which it finds its chief support, stand forth in bold and pure relief. The highest god is there a father, old-father, grandfather, who grants to the living blessing and victory, to the dying a welcome in his own mansions. Death is called 'going home,' *Heimgang*, return to our father. By the side of the god stands the highest goddess as mother, old-mother, grandmother, a wise and pure ancestress of the human race. The god is majestic, the goddess beaming with beauty. Both hold their circuit on earth and are seen among men, he teaching war and weapons, she sewing, spinning, and weaving. He inspires the poem, she cherishes the tale.

Let me conclude with the eloquent words of my friend, Charles Kingsley:[3]

Then they looked round upon the earth, those simple-hearted forefathers of ours, and said within themselves, 'Where is the All-Father, if All-Father there be? Not in this earth; for it will perish. Nor in the sun, moon, or stars; for they will perish too. Where is He who abideth for ever?' Then they lifted up

[1] See Sellar, *The Roman Poets of the Republic*, p. 276: 'In fine, we are all born of the seed of heaven; that heaven is the common father of all, from which our bounteous mother earth receives the liquid drops of rain, and, conceiving, bears fair fruits and luxuriant groves, and the race of man, and all the generations of wild beasts.'

[2] Grimm, *Deutsche Mythologie*, xl. 1.

[3] C Kingsley, *The Good News of God*, 1859, p. 241.

their eyes, and saw, as they thought, beyond sun, and moon, and stars, and all which changes and will change, the clear blue sky, the boundless firmament of heaven.

That never changed; that was always the same. The clouds and storms rolled far below it, and all the bustle of this noisy world; but there the sky was still, as bright and calm as ever. The All-Father must be there, unchangeable in the unchanging heaven; bright, and pure, and boundless like the heavens; and like the heavens, too, silent and far off.

So they named him after the heaven, Tuisco—the God who lives in the clear heaven, the heavenly Father. He was the Father of gods and men; and man was the son of Tuisco and Hertha—heaven and earth.

CHAPTER XII.

MYTHS OF THE DAWN.

AFTER having gathered the fragments of the most ancient and most exalted deity *Dyaus*, *Zeus*, *Jupiter*, *Tŷr*, worshipped once by all the members of the Aryan stock, we have now to examine some of the minor deities, in order to find out whether they too can be referred to the earliest period of Aryan speech and Aryan thought—whether they too existed before the Aryans broke up in search of new homes; and whether their memory was preserved more or less distinctly in later days in the poems of Homer and the songs of the Veda. These researches must necessarily be of a more minute character, and I shall have to enter into details which are of little general interest, but which, nevertheless, are indispensable, in order to establish a safe basis for speculations, very apt to mislead even the most cautious inquirer.

Saramâ and Helena.

I begin with the myth of *Hermes*, whose name has been traced back to the Vedic Saramâ. My learned friend Professor Kuhn,[1] who was the first to analyse

[1] In Haupt's *Zeitschrift für Deutsches Alterthum*, vi. p. 119 *seq.*

the meaning and character of Saramâ, arrived at the conclusion that Saramâ meant storm, and that the Sanskrit word was identical with the Teutonic word *storm*, and with the Greek *hormé*. No doubt the root of Saramâ is sar, to go, but its derivation is by no means clear, there being no other word in Sanskrit formed by ama, and with guna of the radical vowel.[1] But admitting that Saramâ meant originally the runner, how does it follow that the runner was meant for storm? It is true that Saranyu, masc., derived from the same root, is said to take in later Sanskrit the meaning of wind and cloud, but it has never been proved that Saranyû, fem., had these meanings. The wind, whether as vâta, vâyu, marut, pavana, anila, &c., is always conceived as a masculine in Sanskrit, and the same applies generally to the other Aryan languages. This, however, would be no insurmountable objection, if there were clear traces in the Veda of Saramâ being endowed with any of the characteristic qualities of the wind. But if we compare the passages in which she is mentioned with others in which the power of the storm is described, we find no similarity whatever. It is said of Saramâ that she espied the strong stable of the cows (i. 72, 8), that she discovered the cleft of the rock, that she went a long journey, that she was the first to hear the lowing of the cows, and perhaps that she led the cows out (iii. 31, 6). She did this at the instance of

[1] See Unâdi-Sûtras, ed. Aufrecht, iv. 48. Sármah, as a substantive, running, occurs Rv. i. 80, 5. The Greek ὁρμή corresponds with this word in the feminine, but not with saramâ.

Indra and the Angiras (i. 62, 3); Bṛihaspati (i. 62, 3) or Indra (iv. 16, 8) split the rock, and recovered the cows, which cows are said to give food to the children of man (i. 62, 3; 72, 8); perhaps, to the offspring of Saramâ herself (i. 62, 3). Saramâ appears in time before Indra (iv. 16, 8), and she walks on the right path (iv. 45, 7 and 8).

This is about all that can be learnt from the Rig-veda as to the character of Saramâ, with the exception of a hymn in the last book, which contains a dialogue between her and the Paṇis, who had robbed the cows. The following is a translation of that hymn:—

The Paṇis said: 'With what purpose did Saramâ reach this place! for the way is far, and leads tortuously away. What was your wish with us? How was the night?[1] How did you cross the waters of the Rasâ?' (1.)

Saramâ said: 'I come, sent as the messenger of Indra, desiring, O Paṇis, your great treasures; this preserved me from the fear of crossing, and thus I crossed the waters of the Rasâ.' (2.)

The Paṇis: 'What kind of man is Indra, O Saramâ? What is his look, he as whose messenger thou camest from afar? Let him come hither, and we will make friends with him, and then he may be the cowherd of our cows.' (3.)

Saramâ: 'I do not know that he is to be subdued, for it is he himself that subdues, he as whose messenger I came hither from afar. Deep streams do not overwhelm him; you, Paṇis, will lie prostrate, killed by Indra.' (4.)

The Paṇis: 'These are the cows, O Saramâ, which thou desiredst, flying about the ends of the sky, O darling. Who

[1] Paritakmyâ is explained in the Dictionary of Boehtlingk and Roth in the sense of random travelling. It never has that sense in the Veda, and as Saramâ comes to the Paṇis in the morning, the question, how was the night, is perfectly natural.

would give them up to thee without fighting? for our weapons too are sharp.' (5.)

Saramâ: 'Though your words, O Panis, be unconquerable,[1] though your wretched bodies be arrowproof,[2] though the way to you be hard to go, Brihaspati will not bless you for either.'[3] (6.)

The Panis: 'That store, O Saramâ, is fastened to the rock; furnished with cows, horses, and treasures. Panis watch it who are good watchers; thou art come in vain to this bright place.' (7.)

Saramâ: 'Let only the Rishis come here, fired with Soma, Ayâsya (Indra[4]) and the ninefold Angiras; they will divide this stable[5] of cows; then the Panis will vomit out this speech.'[6] (8.)

The Panis: 'Art thou, O Saramâ, come hither, driven by the violence of the Gods? Let us make thee our sister, do not go away again; we will give thee part of the cows, O darling.' (9.)

Saramâ: 'I know nothing of brotherhood or sisterhood; Indra knows it and the awful Angiras. They seemed to me anxious for their cows when I came; therefore get away from here, O Panis, far away.'[7] (10.)

'Go far away, Panis, far away; let the cows come out straight; the cows which Brihaspati found hid away, Somâ, the stones, and the wise Rishis.'[8] (11.)

In none of these verses is there the slightest indication of Saramâ as the representative of the storm, nor do the explanations of Indian commentators, which have next to be considered, point at all in that direction.

[1] asenyá, not hurtful, B. R.

[2] anishavyá, not to be destroyed, B. R.

[3] Ubhayâ, with the accent on the last syllable, is doubtful.

[4] Cf. i. 62, 7, and B. R. s.v.

[5] ûrva is called drilha, Rv. i. 72, 8.

[6] 'Will be sorry for their former speech.'

[7] variyah, in das Weite.

[8] See Aufrecht in *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, xiii. 493; xiv. 583.

Sâyaṇa, in his commentary on the Rigveda (i. 6, 5), tells the story of Saramâ most simply. The cows, he says, were carried off by the Paṇis from the world of the gods and thrown into darkness; Indra, together with the Maruts, or storms, conquered them.

In the Anukramaṇikâ, the index to the Rigveda-Sanhitâ (x. 103), the story is related in fuller detail. It is there said that the cows were hidden by the demons, the Paṇis; that Indra sent the dog of the gods, Saramâ, to look for the cows; and that a parley took place between her and the Paṇis, which forms the 108th hymn of the last book of the Rigveda.

Further additions to the story are to be found in Sâyaṇa's Commentary on iii. 31, 5. The cows are there called the property of the Angiras, and it was at their instance that Indra sent the dog, and then, being apprised of their hiding-place, brought them back to the Angiras. So, at least, says the commentator, while the text of the hymn represents the seven sages, the Angiras, as taking themselves a more active part in effecting the breach in the mountain. Again, in his commentary on Rv. x. 108, Sâyaṇa adds that the cows belonged to Bṛihaspati, the chief-priest of Indra, that they were stolen by the Paṇis, the people of Vala, and that Indra, at Bṛihaspati's instance, sent the dog Saramâ. The dog, after crossing a river, came to the town of Vala, and saw the cows in a secret place; whereupon the Paṇis tried to coax her to stay with them.

As we read the hymn in the text of the Rigveda,

the parley between Sâramâ and the Panis would seem to have ended with Saramâ warning the robbers to flee before the wrath of Indra, Brihaspati, and the Angiras. But in the Brihaddevatâ a new trait is added. It is there said that although Saramâ declined to divide the booty with the Panis, she asked them for a drink of milk. After having drunk the milk, she recrossed the Rasâ, and when she was asked after the cows by Indra, she denied having seen them. Indra thereupon kicked her with his foot, and she vomited the milk, and ran back to the Panis. Indra then followed her, killed the demons, and recovered the cows.

This faithlessness of Saramâ is not alluded to in the hymn; and in another passage, where it is said that Saramâ found food for her offspring (Rv. i. 62, 3), Sâyana merely states that Saramâ, before going to look for the cows, made a bargain with Indra that her young should receive milk and other food, and then proceeded on her journey.

This being nearly the whole evidence on which we must form our opinion of the original conception of Saramâ, there can be little doubt that she was meant for the early dawn, and not for the storm.[1] In the ancient hymns of the Rigveda she is never spoken of as a dog, nor can we find there the slightest allusion to her canine nature. This is evidently a later thought,[2] and it is high time that this much-talked-of

[1] In Banffshire the dog-afore-his-maister is the roll or swell of the sea that often precedes a storm. The dog-ahin's-maister, the swell after the storm has ceased. W. Gregor, *The Dialect of Banffshire*, 1866.

[2] It probably arose from Sâramêya being used as a name or epithet of the dogs of Yama. See page 592.

greyhound should be driven out of the Vedic Pantheon. There are but few epithets of Saramâ from which we might form a guess as to her character. She is called supadî, having good feet, or quick, an adjective which never occurs again in the Rigveda. The second epithet, however, which is applied to her, subhagâ, fortunate, beloved, is one she shares in common with the Dawn; nay, which is almost a stereotyped epithet of the Dawn.

But more than this. Of whom is it so constantly said, as of Saramâ, that she appears before Indra, that Indra follows her? It is Ushas, the Dawn, who wakes first (i. 123, 2); who comes first to the morning prayer (i. 123, 2). The Sun follows behind, as a man follows a woman (Rv. i. 115, 2).[1] Of whom is it said, as of Saramâ, that she brings to light the precious things hidden in darkness? It is Ushas, the Dawn, who reveals the bright treasures that were covered by the gloom (i. 123, 6). She crosses the water unhurt (vi. 64, 4); she lays open the ends of heaven (i. 92, 11); those very ends where, as the Panis said, the cows were to be found. She is said to break the strongholds and bring back the cows (vii. 75, 7; 79, 4). It is she who, like Saramâ, distributes wealth among the sons of men (i. 92, 3; 123, 3). She possesses the cows (i. 123, 12, &c.); she is even called the mother of the cows (iv. 52, 2). She is said to produce the cows and to bring light (i. 124, 5); she is asked to open the doors of heaven, and to bestow on man wealth of cows (i. 48. 15). The

[1] *Comparative Mythology*, p. 57. *Oxford Essays*, 1856. *Chips from a German Workshop*, vol. ii. p. 94.

Angiras, we read, asked her for the cows (vi. 65, 5), and the doors of the dark stable are said to be opened by her (iv. 51, 2). In one place her splendour is said to be spreading as if she were driving forth cattle (i. 92, 12); in another the splendours of the Dawn are themselves called a drove of cows (iv. 51, 8; 52, 5). Again, as it was said of Saramâ, that she follows the right path, the path which all the heavenly powers are ordained to follow, so it is particularly said of the Dawn that she walks in the right way (i. 124, 3; 113, 12). Nay, even the Panis, to whom Saramâ was sent to claim the cows, are mentioned together with Ushas, the Dawn. She is asked to wake those who worship the gods, but not to wake the Panis (i. 124, 10). In another passage (iv. 51, 3) it is said that the Panis ought to sleep in the midst of darkness, while the Dawn rises to bring treasures for man.

It is more than probable, therefore, that Saramâ was but one of the many names of the Dawn; it is almost certain that the idea of storm never entered into the conception of her. The myth of which we have collected the fragments is clear enough. It is a reproduction of the old story of the break of day. The bright cows, the rays of the sun or the rain-clouds—for both go by the same name—have been stolen by the powers of darkness, by the Night and her manifold progeny. Gods and men are anxious for their return. But where are they to be found? They are hidden in a dark and strong stable, or scattered along the ends of the sky, and the robbers will not restore them. At last, in the farthest distance, the first signs of the Dawn appear; she peers

about, and runs with lightning quickness, it may be, like a hound after a scent,[1] across the darkness of the sky. She is looking for something, and, following the right path, she has found it. She has heard the lowing of the cows, and she returns to her starting-place with more intense splendour.[2] After her return Indra arises, the god of light, ready to do battle in good earnest against the gloomy powers, to break open the strong stable in which the bright cows were kept, and to bring light, and strength, and life back to his pious worshippers. This is the simple myth of Saramâ; composed originally of a few fragments of ancient speech, such as—'the Panis stole the cows,' i.e. the light of day is gone; 'Saramâ looks for the cows,' i.e. the Dawn is spreading; 'Indra has burst the dark stable,' i.e. the sun has risen.

All these are sayings or proverbs peculiar to India, and no trace of Saramâ has yet been discovered in the mythological phraseology of other nations. But let us suppose that the Greeks said, 'Saramâ herself has been carried off by Pani, but the gods will destroy her hiding-place and bring her back.' This, too, would originally have meant no more than that the Dawn who disappears in the morning will come back in the gloaming, or with the light of the next day. The idea that Pani wished to seduce Saramâ from her allegiance to Indra, may be discovered in the ninth verse of the Vedic dialogue, though in

[1] *Erigone*, the early-born, also called *Aletis*, the rover, when looking for the dead body of her father, *Ikarius* (the father of *Penelope* is his namesake), is led by a dog, *Maira*. See Jacobi's *Mythologie*, s. v. 'Ikarius.'

[2] *Eeriboia*, or *Eriboia*, betrays to *Hermes* the hiding-place where *Ares* was kept a prisoner. *Il.* v. 385.

India it does not seem to have given rise to any further myths. But many a myth that only germinates in the Veda may be seen breaking forth in full bloom in Homer. If, then, we may be allowed a guess, we should recognise in *Helena*, the sister of the *Dioskuroi*, the Indian Saramâ, their names being phonetically identical,[1] not only in every consonant and vowel, but even in their accent. Apart from all mythological considerations, Saramâ in Sanskrit is the same word as *Helena* in Greek; and unless we are prepared to ascribe such coincidences as *Dyaus* and *Zeus*, Varuna and *Uranos*, Sarvara and *Cerberus*, to mere accident, we are bound to trace Sarámâ and *Heléne* back to some point from which both could have started in common. The siege of Troy is but a repetition of the daily siege of the East by the solar powers that every evening are robbed of their brightest treasures in the West. That siege, in its original form, is the constant theme of the hymns of the Veda. Saramâ, it is true, does not yield in the Veda to the temptation of Pani, yet the first indications of her faithlessness are there, and the equivocal character of the twilight which she represents would fully account for the further development of the Greek myth. In the Iliad, *Briséis*,[2] the daughter of *Brises*, is one of the first captives taken by the advancing army of the West. In the

[1] This is no longer tenable, because it has never been proved that a medial *m* in Sanskrit can be represented in Greek by *n*.

[2] This comparison also is no longer tenable, because the *s* in Greek between two vowels is irregular. It could be accounted for if *Briséis* stood for an original *Barséis*, though even then the comparison would remain doubtful. See also Bradke, in *Zeitschrift der D. M. G.* xl. p. 878.

Veda, before the bright powers reconquer the light that had been stolen by Pa*n*i, they are said to have conquered the offspring of *Brisaya*. That daughter of *Brises* is restored to Achilles when his glory begins to set, just as all the first loves of solar heroes return to them in the last moments of their earthly career.[1] And as the Sanskrit name Pa*n*is[2] betrays the former presence of an *r*,[3] *Paris* himself might possibly be identified with the robber who tempted Saramâ. I lay no stress on *Helen* calling herself a dog (*Il.* vi. 344), but that the beautiful daughter of Zeus, (duhitâ Diva*h*), the sister of the *Dioskuroi*, was one of the many personifications of the Dawn, I cannot doubt. Whether she is carried off by *Theseus* or by *Paris*, she is always reconquered for her rightful husband; she meets him again at the setting of his life, and dies with him, pardoned and glorified. This is the burden of many a Dawn myth, and it is the burden of the story of *Helen*.

A weighty objection that has been made is that Ἑλένα is among those words which, according to the

[1] See Cox, *Tales of Argos and Thebes*, Introduction, p. 90.

[2] Cf. Benfey, in Kuhn's *Zeitschrift*, viii. 1–20, who traces Paris and Priamos to the same root.

[3] I state this very hesitatingly, because the etymology of Pa*n*i is as doubtful as that of *Paris*, and it is useless almost to compare mythological names, without first discovering their etymological intention. Mr. Cox, in his Introduction to the *Tales of Argos and Thebes* (p. 90), endeavours to show that *Paris* belongs to the class of bright solar heroes. Yet if the germ of the *Iliad* is the battle between the solar and nocturnal powers, Paris surely belongs to the latter, and he whose destiny it is to kill Achilles in the *Western gates*,

> ἤματι τῷ ὅτε κέν σε Πάρις καὶ Φοῖβος Ἀπόλλων
> Ἐσθλὸν ἐόντ' ὀλέσωσιν ἐνὶ Σκαιῇσι πύλῃσιν,

could hardly have been himself of solar or vernal lineage.

testimony of Greek and Latin grammarians, had an initial digamma.[1] Because the so-called digamma (the *F*, the old vau, the Latin letter F) corresponds mostly to a Sanskrit and Latin *v*, it has become the fashion to use digamma as almost synonymous with the labial semivowel *v* in Greek. Benfey, however, in his article on ἑκάτερος (in Kuhn's *Zeitschrift für Vergleichende Sprachforschung*, vol. viii. p. 321, and again vol. ix. p. 99), has pointed out that what is generally, though not correctly, called digamma in Greek, represents at least three different letters in the cognate languages, *v*, *s*, *y*. These three letters became evanescent in earlier Greek ; and when either on the evidence of the Homeric metre, or on the evidence of grammarians, or even on the evidence of inscriptions, certain Greek words are said to have had an initial digamma, we must be prepared to find, corresponding to this so-called digamma, not only the *v*, but likewise the *s* and *y* in Sanskrit and Latin. Greek scholars are apt to put *F* wherever the metre proves the former presence of some one initial consonant. However, when we find *Fεξ*, the *F* here represents a lost *s*, as proved by Latin *sex*, Sanskrit *shat*. Thus *Fένος* is ἔνος, and points to Latin *senex*, Sanskrit *sana*. When we find in Homer *θεὸς ὥς*, the ος is lengthened because *ὥς* had an initial *y*, as proved by Sanskrit *yat*. In the same manner, the fact that Dionysius quotes *F* Ελένα, nay, even the occurrence

[1] Cf. Tryph. *παθ.* λεξ. § 11. Priscianus, i. p. 21; xiii. p. 574. Ahrens, *De Græcæ Linguæ Dialectis*, lib. i. p. 30 and 31. Mehlhorn, *Griechische Grammatik*, § 10, note 5: *ὡς Fελένη καὶ Fάναξ καὶ Foῖκος καὶ Fανὴρ καὶ πόλλα τοιαῦτα.* Dion. Hal. A.R.

of *F* Ελένα in ancient inscriptions, would by no means prove that *Helena* was originally *Velena*, and was derived from the root var or svar, but only that if the same word existed in the cognate languages, it might there begin with *v*, *s*, or *y*. The statement of Priscianus, 'Sciendum tamen quod hoc ipsum (digamma) Æoles[1] quidem ubique loco aspirationis ponebant effugientes spiritus asperitatem,' is more correct than was at one time supposed even by comparative grammarians; for as the asper in Greek frequently represents an original *s* or *y*, the Æolic digamma became with Greek scholars the exponent of *s* and *y*, as well as of the *v* for which it stood originally.[2]

Sâramêya and Hermes.

But who was Sâramêya? His name certainly approaches very near to *Hermeias*, or *Hermes*, and though the exact form corresponding to Sâramêya in Greek would be *Hêremeias*, yet in proper names a slight anomaly like this may pass. Unfortunately, however, the Rigveda tells us even less of Sâra-

[1] Ahrens, *De Dial. Æol.* p. 22. 'Tale est quod Priscianus (i. p. 22) et Melampus (Bekker, 777, 15) semper apud Æolos asperum in Digamma mutari tradunt.'

[2] How little weight critical scholars attach to the statements of early grammarians as to the presence of digamma in certain Greek words, may be seen from the following quotations:—Curtius, in his *Grundzüge*, p. 276, speaking of *ἀνήρ*, which, according to Dionysius, possessed an initial digamma, says:—'Dionysius is a thoroughly suspicious witness, for he imagines that the digamma can be added at random.' And again in his *Studien zur Griech. und Latein Grammatik*, vol. i. p. 144, he says: 'At optime Kirchhoffius (*Studien*, p. 61), eam in suspitionem vocavit. Grammaticorum igitur testimoniis.'—Tryphon. *παθ. λεξ.* § 11. *Mus. crit. Cant.* t. i. p. 34: *προστίθεται δὲ καὶ τὸ δίγαμμα παρά τε Ἴωσι καὶ Δωριεῦσι καὶ Λάκωσιν, οἷον ἄναξ Ϝάναξ, Ἑλένα Ϝελένα*, cf. Priscian. i. p. 13: 'nihil tribuendum esse, vix est quod moneam.'

mêya than of Saramâ. It never calls any special deity the son of Saramâ, but allows us to take the name in its appellative sense, namely, connected with Saramâ, or the Dawn. If *Hermeias* is Sâramêya, it is but another instance of a mythological germ withering away in one country, and spreading most luxuriantly in another. Dyaus in the Veda is the mere shadow of a deity, if compared with the Greek *Zeus*; Varuna, on the contrary, has assumed much greater proportions in India than *Uranos* in Greece, and the same applies to Vritra, as compared with the Greek *Orthros*. But though we know so little about Sâramêya in the Veda, the little we know of him is certainly compatible with a rudimentary *Hermes*. As Sâramêya would be the son of the twilight, or, it may be, the first breeze of the dawn, so *Hermes* is born early in the morning. (Hom. *Hym. Merc.* 17.) As the Dawn in the Veda is brought by the bright Harits, so *Hermes* is called the leader of the *Charites* (ἡγεμὼν Χαρίτων). In the seventh book of the Rig-veda (vii. 54, 55) we find a number of verses strung together as it would seem at random, to be used as magical formulæ for sending people to sleep.[1] The principal deity invoked is Vâstoshpati, which means lord or guardian of the house, a kind of *Lar*. In two of these verses, the being invoked, whatever it be, is called Sâramêya, and is certainly addressed as a dog, the watch-dog of the house. In the later Sanskrit also, sâramêya is said to mean dog. Sâramêya, if it is here to be taken as the name of a deity, would

[1] In viii. 47, 14, Ushas is asked to carry off sleeplessness.

seem to have been a kind of tutelary deity, the peep of day conceived as a person, watching unseen at the doors of heaven during the night, and giving his first bark in the morning. The same morning deity would naturally have been supposed to watch over the houses of man. The verses addressed to him do not tell us much:

Guardian of the house, destroyer of evil, who assumest all forms, be to us a helpful friend. (1.)

When thou, bright Sâramêya, openest thy teeth, O red one, spears seem to glitter on thy jaws as thou swallowest. Sleep, sleep. (2.)

Bark at the thief, Sâramêya, or at the robber, O restless one! Now thou barkest at the worshippers of Indra; why dost thou distress us? Sleep, sleep!' (3.)

It is doubtful whether the guardian of the house (Vâstoshpati), addressed in the first verse, is intended to be addressed in the next verses; it is equally doubtful whether Sâramêya is to be taken as a proper name at all, or whether it simply means ἑῷος, bright, or speckled like the dawn. But if Sâramêya is a proper name, and if he is meant for the guardian of the house, no doubt it is natural to compare him with the *Hermes propylaeos*, *prothyraeos*, and *pronaos*, and with the *Hermae* in public places and private houses in Greece.[1] Dr. Kuhn thinks that he

[1] M. Michel Bréal, who has so ably analysed the myth of Cacus (*Hercule et Cacus; Étude de Mythologie comparée*, Paris, 1863), and whose more recent essay, *Le Mythe d'Œdipe*, constitutes a valuable contribution to the science of mythology, has sent me the following note on Hermes as the guardian of houses and public places, which, with his kind permission, I beg to submit to the consideration of my readers:—

'A propos du dieu Hermès, je demande à vous soumettre quelques rapprochements. Il me semble que l'explication d'Hermès comme dieu

can discover in Sâramêya the god of sleep, but in our hymn he would rather seem to be a disturber of sleep. One other coincidence, however, might be pointed out. The guardian of the house is called a destroyer of evil, more particularly of illness, and the same power is sometimes ascribed to *Hermes*. (Paus. ix. 22, 2.)

We may admit, then, that *Hermes* and Sâramêya started from the same point, but their history diverged

du crépuscule n'épuise pas tous les attributs de cette divinité. Il est encore le protecteur des propriétés, il préside aux trouvailles : les bornes placées dans les champs, dans les rues et à la porte des temples, ont reçu, au moins en apparence, son nom. Est-ce bien là le même dieu, ou n'avons-nous pas encore ici un exemple de ces confusions de mots dont vous avez été le premier à signaler l'importance? Voici comment je m'explique cet amalgame.

'Nous avons en grec le mot ἕρμα, qui désigne une pierre, une borne, un poteau; ἐρμίν et ἐρμίς, le pied du lit; ἕρμακες, des tas de pierres; ἐρμάν, un banc de sable; ἑρματίζω veut dire je charge un vaisseau de son lest, et ἑρμογλυφεύς désigne d'une manière générale un tailleur de pierres. Il est clair que tous ces mots n'ont rien de commun avec le dieu Hermès.

'Mais nous trouvons d'un autre côté le diminutif ἑρμίδιον ou ἑρμάδιον que les anciens traduisent par "petite statue d'Hermès." Je crois que c'est ce mot qui a servi de transition et qui nous a valu ces pierres grossièrement taillées, dans lesquelles on a voulu reconnaître le dieu, devenu dès-lors le patron des propriétaires, malgré sa réputation de voleur. Quant à ἕρμαιον, qui désigne les trouvailles, je ne sais si c'est à l'idée d'Hermès ou à celle de borne (comme marquant la limite de la propriété) qu'il faut rapporter ce mot.

'Il resterait encore à expliquer un autre attribut d'Hermès—celui de l'éloquence. Mais je ne me rends pas bien compte de la vraie nature du rapport qui unit le mot Hermès avec les mots comme ἑρμηνεύω, ἑρμηνεία.

'J'ai oublié de vous indiquer d'où je fais venir les mots comme ἕρμα, etc. Je les crois dérivés du verbe εἴργω, ἔργω, en sorte que ἕρμα serait pour ἕργμα, et de la même famille que ἕρκος. L'esprit rude est-il primitif? Cela ne me paraît pas certain. Peut-être ces mots sont-ils de la même famille que le latin *arcere*, *erctum*, *ercules*, etc.' (See vol. i. p. 105.)

very early. Sâramêya hardly attained a definite personality, *Hermes* grew into one of the principal gods of Greece. While Saramâ, in India, stands on the threshold that separates the gods of light from the gods of darkness, carrying messages from one to the other, and inclining sometimes to the one, sometimes to the other, *Hermes*, the god of the twilight, betrays his equivocal nature by stealing, though only in fun, the herds of *Apollo*, but restoring them without the violent combat that is waged for the same herds in India between Indra, the bright god, and Vala, the robber. In India the Dawn brings the light, in Greece the Twilight is itself supposed to have stolen it, or to hold back the light,[1] and *Hermes*, the twilight, surrenders the booty when challenged by the sun-god Apollo. Afterwards the fancy of Greek poets takes free flight, and out of common clay gradually models a divine image. But even in the Hermes of Homer and other poets, we can frequently discover the original traits of a Sâramêya, if we take that word in the sense of twilight, and look on *Hermes* as a male representative of the light of the morning. He loves *Herse*, the dew, and *Aglauros*, her sister; among his sons is *Kephalos*, the head of the day. He is the herald of the gods, so is the twilight, so was Saramâ, the messenger of Indra. He is the spy of the night, *νυκτὸς ὀπωπητήρ*; he sends sleep and dreams; the bird of the morning, the cock, stands by his side. Lastly, he is the guide of

[1] A similar idea is expressed in the Veda (v. 79, 9), where Ushas is asked to rise quickly, that the sun may not hurt her with his light, like a thief.

of travellers, and particularly of the souls who travel on their last journey; he is the *Psychopompos*. And here he meets again, to some extent, with the Vedic Sâramêya. The Vedic poets have imagined two dogs belonging to Yama, the lord of the departed spirits. They are called the messengers of Yama, bloodthirsty, broad-snouted, brown, four-eyed, pale, and sârameya, the dawn-children. The departed is told to pass them by on his way to the Fathers, who are rejoicing with Yama; Yama is asked to protect the departed from these dogs; and, finally, the dogs themselves are implored to grant life to the living, and to let them see the sun again. These two dogs represent one of the lowest of the many mythological conceptions of morning and evening, or, as we should say, of Time, unless we comprehend in the same class the legend of the 'two white mice.' These mice are represented as gnawing the root which a man had laid hold of when, followed by a furious elephant, he rushed into a well and saw at the bottom the dragon with open jaws, and the four serpents in the four corners of the well. The furious elephant is explained by the Buddhist moralist as death, the well as the earth, the dragon as hell, the four serpents as the four elements, the root of the shrub as the root of human life, the two white mice as sun and moon, which gradually consume the life of man.[1]

[1] Cf. Benfey, Pantschatantra, vol. i. p. 80; vol. ii. p. 528. Stanislas Julien, *Les Avadânas, Comtes et Apologues Indiens* (Paris, 1859), vol. i. pp. 132, 190. Dr. Rost, *The Chinese and Japanese Repository*, No. v. p. 217. *History of Barlaam and Josaphat*, ascribed to John of Damascus (about 740 A.D.), chap. xii.; *Homâyun Nâmeh*, cap. iv.; *Gesta Romanorum* (Swane's translation, vol. ii. No. 88); Grimm, *Deutsche Mythologie*, p. 758. See M. M., On the Migration of Fables, *Selected Essays*, vol. i. p. 500.

Kerberos and Orthros.

In Greece, *Hermes*, a child of the Dawn, with its fresh breezes, was said to carry off the souls of the departed; in India, Morning and Evening,[1] like two dogs, were fabled to watch for their prey, and to lay hold of those who could not reach the blessed abode of the Fathers. Greece, though she recognised *Hermes* as the guide of the souls of the departed, did not degrade him to the rank of a watch-dog of *Hades*. These watch-dogs, *Kerberos* and *Orthros*, represent, however, like the two dogs of Yama, the gloom of the morning and evening, here conceived as hostile and demoniacal powers. *Orthros* is the dark spirit that is to be fought by the Sun in the morning, the well-known Sanskrit Vṛitra; but Hermes, too, is said to rise *órthrios*, in the gloom of the morning. *Kerberos* is the darkness of night, to be fought by *Herakles*, the Night herself being called Sarvarî[2] in Sanskrit. Hermes, as well as Kerberos, is called *trikephalos*,[3] with three heads, and so is Trisiras, the brother of Saranyû, another name of the Dawn.[4]

[1] Day and Night are called the outstretched arms of death, Kaushîtaki-br. ii. 9: atha mṛityor ha vâ etau vrâgabâhû yad ahorâtre.

[2] See M. M., '*Ist Bellerophon* Vṛitrahan?' in Kuhn's *Zeitschrift*, v. 149.

[3] Hermes trikephalos; Gerhard, *Gr. Myth.* 281, 8.

[4] That Kerberos is connected with the Sanskrit sarvarî, night, was pointed out by me in the *Transactions of the Philol. Soc.*, April 14, 1848. Sabala, a corruption of sarvara, is vindicated as the name of daybreak, syâma, black, as the name of nightfall, by the Kaushîtaki-brâhmana, ii. 9 *seq.* (*Ind. Stud.* ii. 295.) This, no doubt, is an artificial explanation, but it shows a vague recollection of the original meaning of the two dogs.

Sunâsîrau.

There is one point still to be considered, namely, whether, by the poets of the Veda, the Dawn is ever conceived as a dog, and whether there is in the hymns themselves any foundation for the later legends which speak of Saramâ as a dog. Professor Kuhn thinks that the word súna, which occurs in the Veda, is a secondary form of svan, meaning dog, and that such passages as 'sunám huvema maghávânam Índram' (iii. 31, 22) should be translated, 'Let us invoke the dog, the mighty Indra.' If this were so, we might prove, no doubt, that the Dawn also was spoken of as a dog. For we read (iv. 3, 11): 'Sunám náraḥ pári sadan ushásam,' 'Men surrounded the dog, the Dawn.' But does suna ever mean dog? Never, it would seem, if used by itself. In all the passages where this word sunám occurs, it means for the sake of happiness, auspiciously.[1] It is particularly used with verbs meaning to invoke (hve), to worship (parisad), to pray (îḍ).[2] There is not a single passage where sunám could be taken for dog. But there are compounds in which suna would seem to have that meaning. In viii. 46, 28, Súnâ-ishitam most likely means carried by dogs, and in Sunâsîrau we have the name of a couple of deities, the former of which is said to be Suna, the latter Sîra. Yâska

[1] i. 117, 18; iii. 31, 22; iv. 3, 11; 57, 4; 57, 8; vi. 16, 4; x. 102, 8; 126, 7; 160, 5.

[2] Of sván, we find the nominative svấ (vii. 55, 5; x. 86, 4); the accusative svấnam (i. 161, 13; ix. 101, 1; 101, 13); the genitive súnaḥ (i. 182, 4; iv. 18, 13; viii. 55, 3); the nom. dual svấnâ (ii. 39, 4), and svấnau, x. 14, 10; 14, 11. Also svấpadaḥ, x. 16, 6.

recognises in this *Suna* a name of Vâyu, or the wind, in Sîra a name of Âditya, or the sun. Another authority, *Saunaka*, declares *Suna* to be a name of Indra, Sîra a name of Vâyu. Âsvalâyana (*Srauta*-sûtra, ii. 20) declares that *Sunâsîrau* may be meant for Vâyu, or for Indra, or for Indra and Sûrya together. This shows, at all events, that the meaning of the two names was doubtful, even among early native theologians. The fact is that the *Sunâsîrau* occur but twice in the Rigveda, in a harvest hymn. Blessings are pronounced on the plough, the cattle, the labourers, the furrow, and among the rest the following words are addressed to the *Sunâsîrau*:

O *Sunâsîrau*, be pleased with this prayer. The milk which you make in heaven, pour it down upon this earth. (5).

And again:

May the ploughshares cut the earth with good luck! May the ploughers with the oxen follow with good luck! May *Parganya* (the god of rain) give good luck with fat and honey! May the *Sunâsîrau* give us good luck!

Looking at these passages, and at the whole hymn from which they are taken, I cannot agree with Dr. Roth, who in his notes to the Nirukta thinks that Sîra may in this compound mean the ploughshare, and *Suna* some other part of the plough. Sîra might have that meaning, but there is nothing to prove that *suna* ever meant any part of the plough. The two *Sunâsîrau* are asked to send rain from heaven, and they are addressed together with *Parganya*, himself a deity, the god of rain. There is

another verse quoted by Âsvalâyana, in which Indra is called Sunâsîra.[1] What the exact meaning of the word is we cannot tell. It may be Suna, as Dr. Kuhn would suggest, the dog, whether meant for Vâyu or Indra, and Sîra, the sun or the furrow; or it may be a very old name for the dog-star; called the Dog and the Sun, and in that case sîra, or its derivative sairya, would give us the etymon of *Seirios*.[2] But all this is doubtful. What is certain is that there is nothing to justify us in ascribing to sunam the meaning of dog in any passage of the Veda.

In the course of our investigations as to the original meaning of Saramâ, we had occasion to allude to another name, derived from the same root sar, and to which the meaning of *cloud* and *wind* is equally ascribed by Professor Kuhn, namely, Saranyû, fem.

Saranyû and Erinys.

Where saranyú is used as a masculine, its meaning is by no means clear. In the 61st hymn of the tenth book it is almost impossible to find a continuous thread of thought. The verse in which Saranyu occurs is addressed to the kings Mitra and Varuna, and it is said there that Saranyu went to them in search of the cows. The commentator here explains Saranyu unhesitatingly by Yama (saranasîla). In the next verse Saranyu

[1] Indram vayam sunâsîram asmin yagñe havâmahe, sa vâgeshu pra nosvishat. Srauta-S., ii. 20, 4.

[2] Curtius, *Grundzüge*, ii. 128, derives Σείριος from svar, which, however, would have given σύριος or σέριος, rather than σείριος.

is called a horse, just as Saranyû (fem.) is spoken of as a mare; and this Saranyu is called the son of him, i. e. according to Sâyana, of Varuna.[1] In iii. 32, 5, Indra is said to cause the waters to come forth together with the Saranyus, who are here mentioned very much like the Angiras in other places, as helpers of Indra in the great battle against Vritra or Vala. In i. 62, 4, the common epithets of the Angiras (navagva and dasagva) are applied to the Saranyus, and there too Indra is said to have torn Vala asunder with the Saranyus. I believe, therefore, we must distinguish between the Saranyus in the plural, a name of like import as that of the Angiras, possibly as that of the Maruts, and Saranyu in the singular, a name of the son of Varuna or of Yama.

Of Saranyû, too, as a female deity, we learn but little from the hymns of the Rigveda, and though we ought always to guard against mixing up the ideas of the Rishis with those of their commentators, it must be confessed that in the case of Saranyû we should hardly understand what is said of her by the Rishis, without the explanations given by later writers, such as Yâska, Saunaka, and others. The classical and often-quoted passage about Saranyû is found, Rv. x. 17, 2:

Tvashtar makes a wedding for his daughter, thus saying the whole world comes together; the mother of Yama, being wedded, the wife of the great Vivasvat has perished.

[1] He is called there *garanyu*, from a root which in Greek may have yielded Gorgô. Cf. Kuhn, *Zeitschrift*, i. 460. *Erinys* and *Gorgons* are almost identical in Greek.

They hid the immortal from the mortals; making one like her, they have given her to Vivasvat. But she bore the Asvins when this happened, and Saranyû left two couples[1] behind.

Yâska (xii. 10) explains: 'Saranyû, the daughter of Tvashtar, had twins from Vivasvat, the sun. She placed another like her in her place, changed her form into that of a horse, and ran off. Vivasvat, the sun, likewise assumed the form of a horse, followed her and embraced her. Hence the two Asvins were born, and the substitute (Savarnâ) bore Manu.' Yâska likewise states that the first twins of Saranyû are by etymologists supposed to be Madhyama and Madhyamikâ Vâk, by mythologists Yama and Yamî; and he adds at the end, in order to explain the disappearance of Saranyû, that the night vanishes when the sun rises. This last remark, however, is explained or corrected by the commentator,[2] who says that Ushas, the Dawn, was the wife of Âditya, the sun, and that she, and not the night, disappears at the time of sunrise.

Before proceeding further, I shall add a few particulars from Saunaka's Brihaddevatâ. He says that Tvashtar had a couple of children, Saranyû and Trisiras (Trikephalos); that he gave Saranyû to Vivasvat, and that she bore him Yama and Yamî: they were twins, but Yama was the elder

[1] One couple, according to Dr. Kuhn, *Zeitschrift für Vergleichende Sprachforschung*, i. p. 441.

[2] Saṅkshepato Bhâshyakâro'rtham nirâha. Âdityasya Ushâ gâyâsa, sâdityodaye'ntardhîyate. It is possible, of course, to speak of the Dawn both as the beginning of the day, and as the end of the night.

of the two. Then Saraṇyû made a woman like herself, gave her the children, and went away. Vivasvat was deceived, and the substitute (Savarṇâ) bore him a child, Manu, as bright as his father. Afterwards Vivasvat discovered his mistake, and assuming himself the form of a horse, rushed after Saraṇyû, and she became in a peculiar manner the mother of Nâsatya and Dasra, who are called the two Asvins, or horsemen.

It is difficult to say how much of these legends is old and genuine, and how much was invented afterwards to explain certain mythological phrases occurring in the Rigveda.

Saraṇyû, the water-woman,[1] as the daughter of Tvashṭar (maker), who is also called Savitar (creator), and Visvarûpa, having all forms (x. 10, 5) —as the wife of Vivasvat (also called Gandharva, x. 10, 4)—as the mother of Yama—as hidden by the immortals from the eyes of mortals—as replaced by another wife, and again as the mother of the Asvins —all this is ancient, and confirmed by the hymns of the Rigveda. But the legend of Saraṇyû and Vivasvat assuming the form of horses, may be meant simply as an explanation of the name of their children, the Asvins (equini or equites). The legend of Manu being the son of Vivasvat and Savarṇâ may be intended as an explanation of the names Manu Vaivasvata and Manu Sâvarṇi.

[1] In x. 10, 4, I take Gandharva for Vivasvat, Apyâ Yoshâ for Saraṇyû, in accordance with Sâyaṇa, though differing from Professor Kuhn. In the next verse ǵanitâ is not father, but creator, and belongs to Tvashṭâ savitâ visvarûpaḥ, the father of Saraṇyû, or the creator in general, in his solar character of Savitar.

Professor Kuhn has identified Saraṇyû with the Greek *Erinys*. With this identification I fully agree. I had arrived independently at the same identification, and we had discussed the problem together, before Dr. Kuhn's essay was published. But our agreement ends with the name; and after having given a careful, and, I hope, impartial consideration to my learned friend's analysis, I feel confirmed rather than shaken in the view which I entertained of Saraṇyû from the first. Professor Kuhn, adopting in the main the views of Professor Roth, explains the myth as follows:

> Tvashṭar, the creator, prepares the wedding for his daughter Saraṇyû, i. e. the fleet, impetuous, dark, storm-cloud (Sturmwolke), which in the beginning of all things soared in space. He gives to her as husband Vivasvat, the brilliant, the light of the celestial heights—according to later views, which, for the sake of other analogies, I cannot share, the sun-god himself. Light and cloudy darkness beget two couples of twins: first, Yama, i. e. the twin, and Yamî, the twin-sister (a word which suggests itself); secondly, the two Asvins, the horsemen. But after this the mother disappears, i. e. the chaotic, storm-shaken dimness; the gods hide her, and she leaves behind two couples. To Vivasvat there remains, as his wife, but one like her, as anonymous woman, not further to be defined. The latest tradition (Vishṇu Purâṇa, p. 266) calls her *Khâyâ*, shadow, i. e. the myth knows of no other wife to give to him.

Was this the original conception of the myth? Was Saraṇyû the storm-cloud, which in the beginning of all things was soaring in infinite space? Is it possible to form a clear conception of this primeval storm-cloud, as described by Professor Roth and Professor Kuhn? And if not, how is the original idea of Saraṇyû to be discovered?

There is but one way, I believe, for discovering the original meaning of Saran*y*û, namely, to find out whether the attributes and acts peculiar to Saran*y*û are ever ascribed to other deities whose nature is less obscure. The first question, therefore, we have to ask is this—Is there any other deity who is said to have given birth to twins? There is, namely, Ushas, the Dawn. We read (iii. 39, 3) in a hymn which describes the sunrise under the usual imagery of Indra conquering darkness and recovering the sun:

> The mother of the twins has borne the twins; the tip of my tongue falls, for she approaches; the twins that are born assume form—they, the conquerors of darkness, that have come at the foot of the sun.

We might have guessed from the text itself, even without the help of the commentator, that the 'mother of the twins' here spoken of is the Dawn; but it may be stated that the commentator, too, adopts this view.

The next question is, Is there any other deity who is spoken of as a horse, or rather, as a mare? There is, namely, Ushas, the Dawn. The Sun, no doubt, is the deity most frequently spoken of as a horse.[1] But the Dawn also is not only called rich in horses, and represented as carried by them, but she is herself compared to a horse. Thus, i. 30, 21, and iv. 52, 2,[2] the Dawn is likened to a mare, and in the latter passage she is called at the same time the friend of the Asvins. In the Mahâbhârata (Âdi-

[1] *Comparative Mythology*, p. 82. *Chips*, vol. ii. p. 138; *supra*, p. 473.

[2] *á*sve ná *k*itre arushi; or better, *á*sveva *k*itre.

parva, 2,599) the mother of the Asvins is likewise said to have the form of a mare, vaḍavâ.[1]

Here, then, we have a couple, the Sun and the Dawn, that might well be represented in legendary language as having assumed the form of a horse and a mare.

Correlative Deities.

The next question is, 'Who could be called their children?' and in order to answer this question satisfactorily, it will be necessary to discuss somewhat fully the character of a whole class of Vedic deities. It is important to observe that the children of Saraṇyû are spoken of as twins. The idea of twin powers is one of the most fertile ideas in ancient mythology. Many of the most striking phenomena of nature were comprehended by the ancients under that form, and were spoken of in their mythic phraseology as brother and sister, husband and wife, father and mother. The Vedic Pantheon particularly is full of deities which are always introduced in the dual, and they all find their explanation in the palpable dualism of nature, Day and Night, Dawn and Gloaming, Morning and Evening, Summer and Winter, Sun and Moon, Light and Darkness, Heaven and Earth. All these are dualistic or correlative conceptions. The two are conceived as one, as belonging to each other; nay, they sometimes share the same name. Thus we find Ahorâtre[2] (not in Rigveda),

[1] Kuhn, *Zeitschrift*, i. 523.

[2] A distinction ought to be made between ahorâtraḥ, or ahorâtram, the time of day and night together, a *νυχθήμερον*, which is a masculine or neuter, and ahorâtrê, the compound dual of ahan, day,

day and night, but also Ahanî (i. 123, 7), the two days, i.e. day and night. We find Ushâsânáktâ (i. 122, 2), dawn and night, Náktoshâsâ (i. 13, 7; 142, 7), night and dawn, but also Ushâsau (i. 188, 6), the two dawns, i.e. dawn and night. There is Dyâvâp*ri*thivî, heaven and earth (i. 143, 2), P*ri*thivîdyâvâ, earth and heaven (iii. 46, 5), but also Dyâvâ (iii. 6, 4). Instead of Dyâvâp*ri*thivî, other compounds such as Dyâvâkshâmâ (iii. 8, 8), Dyâvâbhûmî (iv. 55, 1), are likewise met with in the text, while Dyunisâu, day and night, is found in the commentary. Now as long as we have to deal with such outspoken names as these, there can be little doubt as to the meaning of the praises bestowed on them, or of the acts which they are said to have performed. If Day and Night, or Heaven and Earth, are praised as sisters, even as twin-sisters, we can hardly call this as yet mythological lan-

and râtrî, night, meaning the day and the night, as they are frequently addressed together. This compound I take to be a feminine, though, as it can occur in the dual only, it may also be taken for a neuter, as is done by the commentary to Pân*i*ni, ii. 4, 28, 29; but not by Pân*i*ni himself. Thus A. V. vi. 128, 3, Ahorâtrâbhyâm, as used in the dual, does not mean twice twenty-four hours, but day and night, just as sûryâ*k*andramâsâbhyâm, immediately after, means sun and moon. The same applies to A. V. x. 7, 6; 8, 23; *Kh*ând. Up. viii. 4, 1; Manu, i. 65, and other passages given by Boehtlingk and Roth, s. v. In all of these the meaning 'two nycthemerons,' would be entirely inappropriate. That ahorâtre was considered a feminine as late as the time of the Vâ*g*asaneyi-sanhitâ, is shown by a passage xiv. 30, where ahorâtre are called adhipatnî, two mistresses. Ahorâtre does not occur in the Rigveda. Ahorâtrâ*n*i occurs once in the tenth book. A passage quoted by B. R. from the Rigveda, where ahorâtrâ*h* is said to occur as masc. plur., does not belong to the Rigveda at all. Ait. Br. ii. 4, ahorâtre vâ ushâsânaktâ.

guage, though no doubt it may be a beginning of mythology. Thus we read, i. 123, 7:

'One goes away, the other comes near, the two Ahans (Day and Night) walk together. One of the two neighbours created darkness in secret, the Dawn flashed forth on her shining car.'

i. 185, 1: 'Which of the two is first, which is last? How are they born, ye poets? Who knows it? These two support everything that exists; the two Ahans (Day and Night) turn round like wheels.' [1]

In iv. 55, 3, Dawn and Night (Ushâsânáktâ) are spoken of as distinct from the two Ahans (Day and Night).

In v. 82, 8, Savitar, the sun, is said to walk before them.

In x. 39, 12, the daughter of the sky, i.e. the Dawn, and the two Ahans, Day and Night, are said to be born when the Asvins put their horses to their car.

In a similar manner the Dyâvâprithivî, Heaven and Earth, are spoken of as sisters, as twins, as living in the same house (i. 159, 4), &c.

It is clear, however, that instead of addressing dawn and gloaming, morning and evening, day and night, heaven and earth by their right names, and as feminines, it was possible, nay, natural, to speak of light and darkness as male powers also, and to address the authors of light and darkness, the bringers of day and night, as personal beings. And so we find, corresponding to the former couples, a number of correlative

[1] Or like things belonging to a wheel, spokes, &c.

deities, having in common most of the characteristics of the former, but assuming an independent mythological existence.

The best known are the Asvins, who are always spoken of in the dual. Whether asvin means possessed of horses, horseman, or descendants of Asva,[1] the sun, or Asvâ, the dawn, certain it is that the same conception underlies their name and the names of the sun and the dawn, when addressed as horses. The sun was looked upon as a racer, so was the dawn, though in a less degree, and so were, again, the two powers which seemed incorporated in the coming and going of each day and each night, and which were represented as the chief actors in all the events of the diurnal play. This somewhat vague, but, for this very reason, I believe, all the more correct character of the two Asvins did not escape even the later commentators. Yâska, in the twelfth book of his Nirukta, when explaining the deities of the sky, begins with the two Asvins. They come first, he says, of all the celestial gods; they arrive even before sunrise. Their name is explained in the usual fanciful way of Indian commentators. They are called Asvin, Yâska says, from the root as, to pervade; because the one pervades everything with moisture, the other with light. He likewise quotes Aurnavâbha, who derives Asvin from asva, horse. But who are these Asvins? he asks. 'Some,' he replies, 'say they are heaven and earth, others day and night, others sun and moon; and the legendarians maintain that they were two virtuous kings.'

[1] Cf. Krisâsvinah, Pân. iv. 2, 66.

Let us consider next the time when the Asvins appear. Yâska places it after midnight, as the light begins gradually to withstand the darkness of the night; and this agrees perfectly with the indications to be found in the Rigveda, where the Asvins appear before the dawn, 'when Night leaves her sister, the Dawn, when the dark one gives way to the bright' (vii. 71, 1); or, 'when one black cow sits among the bright cows' (x. 61, 4).

Yâska seems to assign to the one the overcoming of light by darkness, to the other the overcoming of darkness by light.[1] Yâska then quotes sundry verses to prove that the two Asvins belong together (though one lives in the sky, the other in the air, says the commentator), that they are invoked together, and that they receive the same offerings. 'You walk along during the night like two black goats.[2] When, O Asvins, do you come here towards the gods?'

In order to prove, however, that the Asvins are likewise distinct beings, another half-verse is added, in which the one is called Vâsâtya (not Nâsatya), the son of Night, the other the son of Dawn.

More verses are then quoted from the Rigveda—

[1] The words of Yâska are obscure, nor does the commentator throw much light on them. 'Tatra yat tamo-nupravishṭam *g*yotishi tadbhâgo madhyama*ḥ*, tan madhyamasya rûpam. Ya*g* *g*yotis tamasy anupravishṭam tadbhâga*m* tadrûpam âditya*ḥ* (sic). Tâv etau madhyamottamâv iti svamatam âkâryasya.' Madhyama may be meant for Indra, Uttama for Âditya; but in that case the early Asvin would be Âditya, the sun, the late Asvin, Indra. Dr. Kuhn (*l. c.* p. 442) takes madhyama for Agni.

[2] Petvau is explained by mesha, *goat*, not by megha, *cloud*, as stated by Dr. Roth. Cf. Rv. ii. 39, 2, a*g*â iva.

those before quoted coming from a different source —where the Asvins are called ihéhagâtáu, born here and there, i. e. on opposite sides, or in the air and in the sky. One is gishnu, victorious, he who bides in the air; the other is subhaga, happy, the son of Dyu, or the sky, and here identified with Âditya or the sun. Again: 'Wake the two who harness their cars in the morning! Asvins, come hither, for a draught of this Soma.'

Lastly: 'Sacrifice early, hail the Asvins! Not in the dreary evening is the sacrifice of the gods. Nay, some person different from us sacrifices and draws them away. The sacrificer who comes first is the most liked.'

The time of the Asvins is by Yâska supposed to extend to about sunrise; at that time other gods appear and require their offerings, and first of all Ushas, the Dawn.[1] Here, again, a new distinction is made between the dawn of the air (enumerated in the two preceding books, together with the other mid-air deities) and the dawn of the sky, a distinction which it is difficult to understand.[2] For though in

[1] Rv. i. 46, 14: yuvóḥ ushấḥ ánu sríyam párigmanoḥ upá akarat.

[2] I add a note received from one of my many unknown friends. In a letter from Mr. L. M. H. the following passage occurs:—'I note that you speak of the distinction expressed by the old Indian poets between "the dawn of the air" and "the dawn of the sky," as difficult to understand. Before reading these words, I had been struck, several times this spring, by the beautiful manner in which, after a calm night, shortly before sunrise, a cool gentle breeze from the east began to stir and wake up into lively motion the leaves of the olive-trees, until they seemed to be, in almost conscious exultation, heralding the sun's approach,—whilst the dawning light was proclaiming his approach in the sky. May not these old Eastern poets have felt that two such

the verse which is particularly said to be addressed to the dawn of the air, she is said to appear in the eastern half of the ragas, which ragas Yâska takes to mean mid-air, yet this could hardly have constituted a real distinction in the minds of the original poets. 'These rays of the Dawn have made a light in the eastern half of the welkin; they adorn themselves with splendour, like strong men unsheathing their weapons: the bright cows approach the mothers' (of light, bhâso nirmâtryah).

Next in time is Sûryâ, a female Sûrya, i.e. the sun as a feminine, or, according to the commentator, the Dawn again under a different name. In the Rigveda, too, the Dawn is called the wife of Sûrya (sûryasya yóshâ, vii. 75, 5), and the Asvins are sometimes called the husbands of Sûryâ (Rigveda, iv. 43, 6). It is said in a Brâhmana that Savitar gave Sûryâ (his daughter?) to King Soma or to Pragâpati. The commentator explains that Savitar is the sun, Soma the moon, and Sûryâ the moonlight, which comes from the sun. This, however, seems somewhat fanciful, and savours decidedly of later mythology.

Next in time follows Vrishâkapâyî, the wife of Vrishâkapi. Who she is is very doubtful.[1] The commentary says that she is the wife of Vrishâkapi, and that Vrishâkapi is the sun, so called because he

phenomena might fitly, yet distinctly, be described, the one as "the dawn of the air," the other as "the dawn of the sky"—both harmoniously combining, as twin offspring from a common eastern source, in the office of heralding the approach of the great God of Day?'

[1] According to Dr. Kuhn, the Evening-twilight, *l. c.* p. 441, but without proof.

is enveloped in mist (avasyâvân, or avasyâyavân). Most likely[1] Vrishâkapâyî is again but another conception or name of the Dawn, as the wife of the Sun, who draws up or drinks the vapours from the earth.[2] Her son is said to be Indra, her daughter-in-law Vâk, here meant for thunder, a genealogy hardly in accordance with the rest of the hymn from which our verse is taken, and where Vrishâkapâyî is rather the wife than the mother of Indra. Her oxen are clouds of vapour, which Indra swallows, as the sun might be said to consume the vapours of the morning. It is difficult, on seeing the name of Vrishâkapi, not to think of *Erikapaeos*, an Orphic name of *Protogonos*, and synonymous with *Phanes*, *Helios*, *Priapos*, *Dionysos*; but the original conception of Vrishâkapi is not much clearer than that of *Erikapaeos*, and we should only be explaining *obscurum per obscurius*.

Next in order of the deities of the morning is our Saranyû, whose time is said to be when the sky is free from darkness and covered with rays.

We need not follow any further the systematic catalogue of the gods as given by Yâska. It is clear that he knew of the right place of the two Asvins, and that he placed the activity of the one at the very beginning of day, and hence that of the other at the very beginning of night. He treats them as twins, born together in the early twilight.

[1] This is the opinion of Durga, who speaks of Ushas, vrishâkapâyyavasthâyâm.

[2] Kapi need not have meant here monkey, but may have retained the same meaning which we find in *καπνός*, vapour.

Yâska, however, is not to be considered as an authority, except if he can be proved to agree with the hymns of the Rigveda, to which we now return.

The preponderating idea in the conception of the Asvins in the hymns of the Rigveda is that of correlation, which, as we saw, they share in common with such twin-deities as heaven and earth, day and night, &c. That idea, no doubt, is modified according to circumstances, the Asvins are brothers, Heaven and Earth are sisters. But if we remove these outward masks, we shall find behind them, and behind some other masks, the same actors, Nature in her twofold aspect of daily change—morning and evening,[1] light and darkness—aspects which in time may expand into those of spring and winter, life and death; nay, even of good and evil.

Before we leave the Asvins in search of other twins, and ultimately in search of the twin-mother, Saranyû, the following hymn may help to impress on our minds the dual character of these Indian *Dioskuroi*.

Like the two stones[2] you sound for the same object.[3] You are like two hawks rushing towards a tree with a nest;[4] like

[1] Rv. i. 34, 1: yuvór hí yantrám himyéva vâsasah, 'your journey is as of the day with the night.'

[2] Used at sacrifices for crushing and pressing out the juice of the Soma plant.

[3] Tád íd ártham is used almost adverbially in the sense of 'for the same purpose.' Thus, Rv. ix. 1, 5, 'We come to see every day for the same purpose.' As to *gar*, I take it in the usual sense of sounding, making a noise, and, more particularly, praising. The stones for pressing out the Soma are frequently spoken of as themselves praising, while they are being handled by the priests (v. 37, 2).

[4] Nidhi, originally that where something is placed, afterwards treasure.

two priests reciting their prayers at a sacrifice; like the two messengers of a clan called for in many places. (1.)

Coming early, like two heroes on their chariots, like twin-goats, you come to him who has chosen you; like two women, beautiful in body; like husband and wife, wise among their people. (2).

Like two horns, come first towards us; like two hoofs, rushing on quickly; like two birds, ye bright ones, every day, come hither, like two charioteers,[1] O ye strong ones! (3.)

Like two ships, carry us across; like two yokes, like two naves of a wheel, like two spokes, like two felloes; like two dogs that do not hurt our limbs; like two armours, protect us from destruction! (4.)

Like two winds, like two streams, your motion is eternal; like two eyes, come with your sight towards us! Like two hands, most useful to the body; like two feet, lead us towards wealth. (5.)

Like two lips, speaking sweetly to the mouth; like two breasts, feed us that we may live. Like two nostrils, as guardians of the body; like two ears, be inclined to listen to us. (6.)

Like two hands, holding our strength together; like heaven and earth, drive together the clouds. O Asvins, sharpen these songs that long for you, as a sword is sharpened with a whetstone. (7.)

Like the two Asvins, who are in later times distinguished by the names of Dasra and Nâsatya, we find another couple of gods, Indra and Agni, addressed together in the dual, Indrâgnî, but likewise as Indrâ, the two Indras, and Agnî, the two Agnis (vi. 60, 1), just as heaven and earth are called the two heavens, and the Asvins the two Dasras, or the two Nâsatyas. Indra is the god of the bright sky, Agni the god of fire, and they have each their own distinct personality; but when invoked

[1] Rathyâ. Cf. v. 76, 1.

together, they become correlative powers and are conceived as one joint deity. Curiously enough, they are actually in one passage called asvinâ[1] (i. 109, 4), and they share several other attributes in common with the Asvins. They are called brothers, they are called twins; and as the Asvins were called ihehagâte, born here and there, i. e. on opposite sides, in the East and in the West, or in heaven and in the air, so Indra and Agni, when invoked together, are called ihehamâtarâ, they whose mothers are here and there (vi. 59, 2). Attributes which they share in common with the Asvins are vrishanâ, bulls, or givers of rain;[2] vritrahanâ, destroyers of Vritra,[3] or of the powers of darkness; sambhuvâ,[4] givers of happiness; supânî, with good hands; vîlupânî,[5] with strong hands; genyâvasû, with genuine wealth.[6] But in spite of these similarities, it must not be supposed that Indra and Agni together are a mere repetition of the Asvins. There are certain epithets constantly applied to the Asvins (subhaspatî, vâginîvasû, sudânû, &c.), which, as far as I know, are not applied to Indra and Agni together; and *vice versâ* (sadaspatî, sahurî). Again, there are

[1] Dr. Kuhn, *l. c.* p. 450, quotes this passage and others, from which, he thinks, it appears that Indra was supposed to have sprung from a horse (x. 73, 10), and that Agni was actually called the horse (ii. 35, 6).

[2] Indra and Agni, i. 109, 4; the Asvins, i. 112, 8.

[3] Indra and Agni, i. 108, 3; the Asvins, viii. 8, 9 (vritrahantamâ).

[4] Indra and Agni, vi. 60, 14; the Asvins, viii. 8, 19; vi. 62, 5.

[5] Indra and Agni, supâni, i. 109, 4; the Asvins, vîlupâni, vii. 73, 4.

[6] Indra and Agni, viii. 38, 7; the Asvins, vii. 74, 3.

certain legends constantly told of the Asvins, particularly in their character as protectors of the helpless and dying, and resuscitators of the dead, which are not transferred to Indra and Agni. Yet, as if to leave no doubt that Indra, at all events, coincides in some of his exploits with one of the Asvins or Nâsatyas, one of the Vedic poets uses the compound Indra-Nâsatyau, Indra and Nâsatya, which, on account of the dual that follows, cannot be explained as Indra and the two Asvins, but simply as Indra and Nâsatya.

Besides the couple of Indrâgni, we find some other, though less prominent couples, equally reflecting the dualistic idea of the Asvins, namely, Indra and Varu*n*a, Indra and Vish*n*u, and, more important than either, Mitra and Varu*n*a. Instead of Indrâ-Varu*n*â, we find again Indrâ,[1] the two Indras, and Varu*n*â, the two Varu*n*as (iv. 41, 1). They are called sudânû (iv. 41, 8); v*ri*shan*â* (vii. 82, 2); sambhû (iv. 41, 7); mahâvasû (vii. 82, 2). Indrâ-Vish*n*û are actually c lled dasrâ, the usual name of the Asvins (vi. 69, 7). Now Mitra and Varu*n*a are clearly intended for day and night. They, too, are compared to horses (vi. 67, 4), and they share certain epithets in common with the twin-gods, sudânû (vi. 67, 2), v*ri*shan*au* (i. 151, 2). But their character assumes much greater distinctness, and though clearly physical in their first conception, they rise into moral powers, far superior in that respect to the Asvins and to Indrâgnî. Their physical nature is perceived in a hymn of Vasish*tha* (vii. 63):

[1] As in Latin Castores and Polluces, instead of Castor et Pollux.

The sun, common to all men, the happy, the all-seeing, steps forth; the eye of Mitra and Varuṇa, the bright; he who rolls up darkness like a skin.

He steps forth, the enlivener of men, the great waving light of the sun; wishing to turn round the same wheel which his horse Etaśa draws, joined to the team.

Shining forth, he rises from the lap of the Dawn, praised by singers, he, my god Savitar, stepped forth, who never misses the same place.

He steps forth, the splendour of the sky, the wide-seeing, the far-aiming, the shining wanderer; surely, enlivened by the sun, men do go to their tasks and do their work.

Where the immortals made a walk for him, there he follows the path, soaring like a hawk. We shall worship you, Mitra and Varuṇa, when the sun has risen, with praises and offerings.

Will Mitra, Varuṇa, and Aryaman bestow favour on us and our kin? May all be smooth and easy to us! Protect us always with your blessings!

The ethic and divine character of Mitra and Varuṇa breaks forth more clearly in the following hymn (vii. 65):

When the sun has risen I call on you with hymns, Mitra and Varuṇa, full of holy strength; ye whose imperishable divinity is the oldest, moving on your way with knowledge of everything.[1]

For these two are the living spirits among the gods; they are the lords; do you make our fields fertile. May we come to you, Mitra and Varuṇa, where they nourish days and nights.

They are the catchers[2] of the unrighteous, holding many

[1] The last sentence is doubtful.

[2] Setu means binding. Sâyaṇa never explains it as bridge in the Rigveda, though in the Tait. Br. ii. 4, 2, 6, it seems to have that meaning: â tantum agnir divyam tatâna; tvam nas tantur uta setur agne, tvam panthâ bhavasi devayânaḥ.

In Rv. x. 67, 4, setu in the singular means *prison*, or *keep*: 'The cows which stand hidden in the prison of the unrighteous.' Setu here

nooses; they are hard to be overcome by a hostile mortal. Let us pass, Mitra and Varuṇa, on your way of righteousness, across sin, as in a ship across the water.

The Riddle of the Dawn.

Now if we inquire who could originally be conceived as the father of all these correlative deities, we can easily understand that it must be some supreme power that is not itself involved in the diurnal revolutions of the world, such as the sky, for instance, conceived as the father of all things, or some still more abstract deity, like Praǵâpati, the lord of creation, or Tvashṭar, the fashioner, or Savitar, the creator. Their mother, on the contrary, must be the representative of some place in which the twins meet, and from which they seem to spring together in their diurnal career. This place may be either the dawn or the gloaming, the sunrise or the sunset, the East or the West, only all these conceived not as mere abstractions, but as mysterious beings, as mothers, as powers containing within themselves the whole mystery of life and death brought thus visibly before the eyes of the thoughtful worshipper. The dawn, which to us is merely a beautiful sight, was to the early gazer and thinker the problem of all problems. It was the unknown land from whence rose every day those bright emblems of a divine

is the same as asmanmáyâni náhanâ, of the preceding verse. In viii. 67, 8, setuḥ may be fetter, or he who fetters, viz. the enemy, the dásyu avratá, the durâdhí.

In ix. 73, 4, setu, in the plural, may mean snares, or the catchers having hooks in their hands, or the fetters of Varuṇa.

In vii. 84, 2, yaú setṛ́bhiḥ araggúbhiḥ sinîthâḥ must be translated by 'Ye who bind with bonds not made of rope.'

power which left in the mind of man the first impression and intimation of another world, of power above, of order and wisdom. What we simply call the sunrise, brought before their eyes every day the riddle of all riddles, the riddle of existence. The days of their life sprang from that dark abyss which every morning seemed instinct with light and life. Their youth, their manhood, their old age, all were to the Vedic bards the gift of that heavenly mother who appeared, bright, young, unchanged, immortal every morning, while everything else seemed to grow old, to change, and droop, and at last to set, never to return. It was there, in that bright chamber, that, as their poets said, mornings and days were spun, or, under a different image, where mornings and days were nourished (x. 37, 2; vii. 65, 2), where life or time was drawn out (i. 113, 16). It was there that the mortal wished to go to meet Mitra and Varu*n*a. The whole theogony and philosophy of the ancient world centred in the Dawn, the mother of the bright gods, of the sun in his various aspects, of the morn, the day, the spring; herself the brilliant image and visage of immortality.

It is of course impossible to enter fully into all the thoughts and feelings that passed through the minds of the early poets when they formed names for that far far East from whence even the early dawn, the sun, the day, their own life, seemed to spring. A new life flashed up every morning before their eyes, and the fresh breezes of the dawn reached them like greetings wafted across the golden threshold of the sky from the distant lands beyond the mountains, beyond the

clouds, beyond the dawn, beyond 'the immortal sea which brought us hither.' The Dawn seemed to them to open golden gates for the sun to pass in triumph, and while those gates were open their eyes and their minds strove in their childish way to pierce beyond the limits of this finite world. That silent aspect awakened in the human mind the conception of the Infinite, the Immortal, the Divine, and the names of dawn became naturally the names of higher powers. Sara*n*yû, the Dawn, was called the mother of Day and Night, the mother of Mitra and Varu*n*a, divine representatives of light and darkness; the mother of all the bright gods (i. 113, 19); the face of Aditi (i. 113, 19).[1] Now, whatever the etymological meaning of Aditi,[2] it is clear that she is connected with the Dawn—that she represents that which is beyond the Dawn, and that she was raised into an emblem of the Divine and the Infinite. Aditi is called the nâbhir am*ri*tasya, *umbilicus immortalitatis*, the cord that connects the immortal and the mortal. Thus the poet exclaims (i. 24, 1): 'Who will give us back to the great Aditi (to the Dawn, or rather to her from whom we came), that I may see father and mother?' Âditya, literally the son of Aditi, became the name, not only of the sun, but of a class of seven[3] gods, and of gods in

[1] Rv. viii. 25, 3: tâ mâtâ—mahî *gagâna* áditi*h*. Cf. viii. 101, 15; vi. 67, 4.

[2] Boehtlingk and Roth derive aditi from a and diti, and diti from dâ or do, to cut; hence literally the *Infinite*. This is doubtful, but I know no better etymology. See Rigveda-Sanhitâ, translated by M. M., vol. i. p. 230.

[3] Rv. ix. 114, 3: Devâ*h* Âdityâ*h* yé saptá.

general. Rv. x. 63, 2: 'Ye gods who are born of Aditi, from the water, who are born of the earth, hear my calling here.' As everything came from Aditi, she is called not only the mother of Mitra, Varuṇa, Aryaman, and of the Âdityas, but likewise, in a promiscuous way, the mother of the Rudras (storms), the daughter of the Vasus, the sister of the Âdityas.[1] 'Aditi is the sky,[2] Aditi the air, Aditi is mother, father, son; all the gods are Aditi, and the five tribes; Aditi is what is born, Aditi what will be born.'[3] In later times she is the mother of all the gods.[4]

In an *Essay on Comparative Mythology*, published in the *Oxford Essays* of 1856, I collected a number of legends[5] which were told originally of the Dawn. Not one of the interpretations there proposed has ever, as far as I am aware, been controverted by facts or arguments. The difficulties pointed out by scholars such as Curtius and Sonne, I hope I have removed by a fuller statement of my views. The difficulty which I myself have most keenly felt is the monotonous character of the Dawn and Sun legends. 'Is everything the Dawn? Is everything the Sun?' This question I had asked myself many times before it was addressed to me by others. Whether, by the remarks on the prominent position occupied by the Dawn in the involuntary philosophy of the ancient world, I have succeeded in partially

[1] Rv. viii. 101, 15.
[2] Cf. Rv. x. 63, 3.
[3] Rv. i. 89, 10.
[4] See Boehtlingk and Roth, s. v.
[5] Eos and Tithonos; Kephalos, Prokris, and Eos; Daphne and Apollo; Urvaśi and Purûravas; Orpheus and Eurydice; Charis and Eros.

removing that objection, I cannot tell, but I am bound to say that my own researches lead me again and again to the Dawn and the Sun as the chief burden of the myths of the Aryan race.

Athênê.

I will add but one more instance before I return to the myth of Saranyû. We saw before how many names of different deities were taken from one and the same root, dyu or div. I believe that the root ah,[1] which yielded in Sanskrit Ahanâ (Aghnyâ, i.e. Ahnyâ), the Dawn, ahan and ahar,[2] day, supplied likewise the germ of *Athênê*. First, as to letters, it is known that Sanskrit h is frequently the neutral exponent of guttural, dental, and labial soft aspirates. H is guttural, as in arh and argh,

[1] The root ah is connected with root dah, from which *Daphne* (cf. as, from which asru, and das, from which δάκρυ). Curtius mentions the Thessalian form, δαύχνη for δάφνη. (*Griech. Et.* ii. 68.) He admits my explanation of the myth of Daphnê as the dawn, but he says, 'If we could but see why the dawn is changed into a laurel!' Is it not from mere homonymy? The dawn was called δάφνη, the burning, so was the laurel, as wood that burns easily; the two, as usual, were supposed to be one. See *Etym. M.* p. 250, 20; δαυχμὸν εὔκαυστον ξύλον; Hesych. δαυχμὸν εὔκαυστον ξύλον δάφνης (1. εὔκαυστον ξύλον, δάφνην, Ahrens, *Dial. Græc.* ii. 532). Legerlotz, in Kuhn's *Zeitschrift*, vii. 292.

[2] Is Achilleus the mortal solar hero, Aharyu? The change of r into l begins in the Sanskrit Ahalyâ, who is explained by Kumârila as the goddess of night, beloved and destroyed by Indra. (See M.M.'s *History of Sanskrit Literature*, p. 530.) As Indra is called ahalyâyai gârah, it is more likely that she was meant for the dawn. *Leuke*, the island of the blessed, the abode of heroes after their death, is called *Achillêa*. *Schol. Pind. Nem.* 4, 49. Jacobi, *Mythologie*, p. 12. *Elysium* in the West (Gerhard, *Griech. Mythologie*, 581) is the same as *Leuke*. Achaios might be Ahasya, but Achîvus points in another direction.

ranh and rangh, mah and magh. It is dental, as in vṛih and vṛidh, nah and naddha, saha and sadha, hita instead of dhita, hi (imperative) and dhi. It is labial, as grah and grabh, nah and nâbhi, luh and lubh. Restricting our observation to the interchange of h and dh, or *vice versâ*, we find, first, in Greek dialects, variations such as *órnichos* and *órnithos*, *íchma*, and *íthma*.[1] Secondly, the root ghar or har, which, in Sanskrit, gives us gharma, heat, is certainly the Greek *ther*, which gives us *thermós*, warm.[2] If it be objected that this would only prove an interchange between Sanskrit h and Greek θ as an initial, but not as a final, we can appeal to Sanskrit guh, to hide, Greek *keúthō*; possibly to Sanskrit rah, to remove, Greek *lath*.[3] In the same manner, then, the root ah, which in Greek would regularly appear as *ach*, might likewise there have assumed the form *ath*. As to the termination, it is the same which we find in *Selênê*, the Sanskrit ânâ. *Athênê*, therefore, as far as letters go, would correspond to a Sanskrit Ahânâ, which is but a slightly differing variety of Ahanâ,[4] a recognised name of the dawn in the Veda.

What, then, does *Athênê* share in common with the Dawn? The Dawn is the daughter of Dyu, *Athênê*, the daughter of *Zeus*. Homer knows of no mother of *Athênê*, nor does the Veda mention the name of a

[1] Cf. Mehlhorn, *Griech. Grammatik*, p. 111.

[2] See Curtius, *Griechische Etymologie*, ii. 79.

[3] Schleicher, *Compendium*, § 125, and p. 711. Raumer, *Gesammelte Sprachwissenschaftliche Schriften*, p. 84.

[4] On changes like ana and âna, see Kuhn, *Herabkunft des Feuers*, p. 28.

mother of the Dawn, though her parents are spoken of in the dual (i. 123, 5).

The extraordinary birth of *Athênê*, though post-Homeric, is no doubt of ancient date, for it seems no more than the Greek rendering of the Sanskrit phrase that Ushas, the Dawn, sprang from the head of Dyu, the mûrdhấ diváḥ, the East, the forehead of the sky. In Rome she was called *Capta*, i.e. *Capita*, head-goddess, in Messene *Koryphasia*,[1] in Argos *Akria*.[2] One of the principal features of the Dawn in the Veda is her waking first (i. 123, 2), and her rousing men from their slumber. In Greece, the cock, the bird of the morning, is next to the owl, the bird of *Athênê*. If *Athênê* is the virgin goddess, so is Ushas, the dawn, yuvatiḥ, the young maid, arepasâ tanvâ, with spotless body. From another point of view, however, husbands have been allotted both to *Athênê* and to Ushas, though more readily to the Indian than to the Greek goddess.[3] How *Athênê*, being the dawn, should have become the goddess of wisdom, we can best learn from the Veda. In Sanskrit, budh means to wake and to know;[4] hence the goddess who caused people to wake was involuntarily conceived as the goddess who caused people to know. Thus it is said that she drives away darkness, and that through her those who see little

[1] On Athênê, ἐκ κορυφῆς, see Bergk, *Neue Jahrb. für Philologie*, 1860, pp. 295, 410.

[2] Gerhard, *Griechische Mythologie*, § 253, 3 h. Preller, *Römische Mythologie*, p. 260, n.

[3] Gerhard, *Griechische Mythologie*, § 267, 3.

[4] Rv. i. 29, 4: sasántu tyấḥ árâtayaḥ bódhantu sûra râtáyaḥ.

may see far and wide (i. 113, 5). 'We have crossed the frontier of this darkness,' we read; 'the dawn shining forth gives light' (i. 92, 6). But light (vayúnâ) has again a double meaning, and means knowledge much more frequently and distinctly than light. In the same hymn (i. 92, 9) we read:

> Lighting up all the worlds, the Dawn, the eastern, the seer, shines far and wide; waking every mortal to walk about, she received praise from every thinker.

Here the germs of *Athênê* are visible enough. That she grew into something very different from the Indian Ushas, when once worshipped as their tutelary deity by the people of the Morning-city of Attica, needs no remark. But though we ought carefully to watch any other tributary that enters into the later growth of the bright heaven-sprung goddess, we need not look, I believe, for any other spring-head than the forehead of the sky, or Zeus.[1]

Minerva.

Curious it is that in the mythology of Italy, *Minerva*, who was identified with *Athênê*, should from the beginning have assumed a name apparently expressive of the intellectual rather than the physical character of the Dawn-goddess. *Minerva*, or *Menerva*,[2] is clearly connected with *mens*, the Greek *ménos*, the Sanskrit manas, mind; and as the Sanskrit siras, Greek *kéras*, horn, appears in Latin *cervus*, so Sanskrit manas, Greek *ménos*, in Latin *Menerva*. But it should be considered that *mâne* in

[1] On Athênê, see M. M., *Natural Religion*, pp. 434 seq.
[2] Preller, *Römische Mythologie*, p. 258.

Latin is the *morning*, *Mânia*, an old name of the mother of the Lares;[1] that *mânare* is specially used of the rising sun;[2] and that *Mâtuta*, not to mention other words of the same kin, is the Dawn.[3] From this it would appear that in Latin the root *man*, which in the other Aryan languages is best known in the sense of thinking, was at a very early time put aside, like the Sanskrit budh, to express the revived consciousness of the whole of nature at the approach of the light of the morning; unless there was another totally distinct root, peculiar to Latin, expressive of that idea. The two ideas certainly seem to hang closely together; the only difficulty being to find out whether 'wide awake' led on to 'knowing,' or *vice versâ*. Anyhow I am inclined to admit in the name of *Minerva* some recollection of the idea expressed in *Matuta*; and even in *promenervare*, used in the *Carmen saliare*[4] in the sense of to admonish, I should suspect a relic of the original power of rousing.

Ortygia.

The tradition which makes Apollo the son of Athene,[5] though apparently modern and not widely spread, is yet by no means irrational, if we take Apollo as the sun-god rising from the brightness of

[1] Varro, *L. L.* 9, 38, § 61, ed. Müller.

[2] 'Manat dies ab oriente.' Varro, *L. L.* 6, 2, 52, § 4. 'Manare solem antiqui dicebant, quum solis orientis radii splendorem jacere cœpissent.' Festus, p. 158, ed. Müller.

[3] In Oscan the Maato-s seem to be matutinal deities. Grassman, in Kuhn's *Zeitschrift*, xvi. 118.

[4] Festus, p. 205. Paul. Diac. p. 123: 'Minerva dicta quod bene moneat.'

[5] Gerhard, *l. c.* § 267, 3.

the Dawn. Dawn and Night frequently exchange places, and though the original conception of the birth of *Apollo* and *Artemis* was no doubt that they were both children of the night, *Lêtô* or *Latona*, yet even then the place or the island in which they are fabled to have been born is *Ortygia*, afterwards called *Delos*, or *Delos*, afterwards called *Ortygia*, or both *Ortygia* and *Delos*.[1] Now *Delos* is simply the bright island; but *Ortygia*, though localised afterwards in different places,[2] is the dawn, or the dawn-land. *Ortygia* is derived from *ortyx*, a quail. The quail in Sanskrit is called vartikâ, i.e. the returning bird, one of the first birds that return with the return of spring. The same name, Vartikâ, is given in the Veda to one of the many beings delivered or revived by the Asvins, i.e. by day and night; and I believe Vartikâ, the returning, is again one of the many names of the Dawn. The story told of her is very short. 'She was swallowed, but she was delivered by the Asvins' (i. 112, 8). 'She was delivered by them from the mouth of the wolf' (i. 117, 6; 116, 14; x. 39, 13). 'She was delivered by the Asvins from agony' (i. 118, 8). All these are but legendary repetitions of the old saying, 'the Dawn or the quail comes,' 'the quail is swallowed by the wolf,' 'the quail has been delivered from the mouth of the wolf.' Hence *Ortygia*, the quail-land, the East, 'the glorious birth,' where Leto was delivered of her solar twins, and *Ortygia*, a name given to *Artemis*, the daughter of *Leto*, as born in the East.

[1] Jacobi, p. 574, n.

[2] Gerhard, *Griechische Mythologie*, § 335, 2.

The Twins.

The Dawn, or rather the mother of the Dawn and of all the bright visions that follow in her train, took naturally a far more prominent place in the religious ideas of the young world than she who was called her sister, the gloaming, or the evening, the end of the day, the approach of darkness, of cold, and, it may be, of death. In the dawn there lay all the charms of a beginning and of youth, and, from one point of view, even the night might be looked upon as the offspring of the dawn, as the twin of the day. As the bright child waned, the dark child grew; as the dark flew away, the bright returned; both were born of the same mother—both seem to have emerged together from the same brilliant womb of the East. It was impossible to draw an exact line, and to say where the day began and where it ended, or where the night began and where it ended. When the light enters into the darkness, as the Brahmans said, then the one twin appears; when the darkness enters the light, then the other twin follows. 'The twins come and go,' this was all the ancient poets had to say of the racing hours of day and night; it was the last word they could find, and, like many a good word of old, this too followed the fate of all living speech; it became a formula, a saw, a myth.

We know who was the mother of the twins; it was the dawn, who dies in giving birth to morning and evening; or, if we adopt the view of Yâska, it was the night, who disappears when the new couple is born. She may be called by all the names of the

dawn, and even the names of the night might express one side of her character. Near her is the stand from whence the horses of the sun start on their diurnal journey;[1] near her is the stable which holds the cows, i.e. the bright days following one after the other like droves of cattle, driven out by the Sun every morning to their pastures, carried off by robbers every night to their gloomy cave, but only to be surrendered by them again and again, after the never-doubtful battle of the early twilight.

Yama and Yamî.

As the Dawn has many names, so her offspring too is polyonymous; and as her most general name is that of Yamasûḥ,[2] or Twin-mother, so the most general name of her offspring too is Yamau, the twins. Now we have seen these twins as males, the Asvins, Indra and Agni, Mitra and Varuna. But we have also seen how the same powers might be conceived as female, as day and night, and thus we find them represented not only as sisters, but as twin-sisters. For instance, Rv. iii. 55, 11:

> The two twin-sisters[3] have made their bodies to differ; one of them is brilliant, the other dark: though the dark one and the bright are two sisters, the great divinity of the gods is *one*.

[1] Hence, I believe, the myth of Asvattha, originally horse-stand, then confounded with asvattha, ficus religiosa. See, however, Kuhn, *Zeitschrift*, i. p. 467.

[2] Rv. iii. 39, 3: Yamasûḥ, yamau yamalau sûta iti yamasûr usho×bhimânini devatâ. Sâ yamâ yamalâv Asvinâv atro×shaḥkâle×sûta.

[3] Yamyâ, a dual in the feminine; cf. v. 47, 5.

By a mere turn of the mythological kaleidoscope, these two sisters, day and night, instead of being the twin children of the dawn, appear in another poem as the two mothers of the sun. Rv. iii. 55, 6:

> This child which went to sleep in the West walks now alone, having two mothers, but not led by them; these are the works of Mitra and Varu*n*a, but the great divinity of the gods is *one*.

In another hymn, again, the two, the twins, born here and there (ihehag*â*te), who carry the child, are said to be different from the mother (v. 47, 5), and in another place one of the two seems to be called the daughter of the other (iii. 55, 12).

We need not wonder, therefore, that the same two beings, whatever we like to call them, were sometimes represented as male and female, as brother and sister, and again as twin-brother and twin-sister. In that mythological dialect the day would be the twin-brother, Yama, the night, the twin-sister, Yamî: and thus we have arrived at last at a solution of the myth which we wished to explain. A number of expressions had sprung up, such as 'the twin-mother,' i.e. the Dawn; 'the twins,' i.e. Day and Night; 'the horse-children,' or 'horsemen,' i.e. Morning and Evening; 'Sara*n*yû is wedded by Vivasvat,' i.e. the Dawn embraces the sky; 'Sara*n*yû has left her twins behind,' i.e. the Dawn has disappeared, it is day; 'Vivasvat takes his second wife,' i.e. the sun sets in the evening twilight; 'the horse runs after the mare,' i.e. the sun has set. Put these phrases together, and the story, as told in the hymn of the Rigveda, is finished. The hymn does not

allude to Manu as the son of Savarṇâ, it only calls the second wife of Vivasvat by that name, meaning thereby no more than what the word implies, a wife similar to his first wife, as the gloaming is similar to the dawn. The fable of Manu is probably of a later date. For some reason or other, Manu, the mythic ancestor of the race of man, was called Sâvarṇi, meaning, possibly, the Manu of all colours, i.e. of all tribes or castes. The name may have reminded the Brahmans of Savarṇâ, the second wife of Vivasvat, and as Manu was called Vaivasvata, the brilliant, afterwards the son of Vivasvat, Manu Sâvarṇi was naturally taken as the son of Savarṇâ. This, however, I only give as a guess till some more plausible explanation of the name and myth of Manu Sâvarṇi can be suggested.

Yama, the Twin.

But it will be necessary to follow still further the history of Yama, the twin, properly so called. In the passage examined before, Saraṇyû is simply called the mother of Yama, i.e. the mother of the twin, but his twin-sister, Yamî, is not mentioned. Yet Yamî, too, was well known in the Veda, and there is a curious dialogue between her and her brother, where she (the night) implores her brother (the day) to make her his wife, and where he declines her offer, because, as he says, 'they have called it sin that a brother should marry his sister' (x. 10, 12).

The question now arises whether Yama, meaning

originally twin, could ever be used by itself as the name of a deity? We may speak of twins; and we saw how, in the hymns of the Veda, several correlative deities are spoken of as twins; but can we speak of a twin, and give that name to an independent deity, worshipped without any reference to its complementary deity? The six seasons, each consisting of two months, are called the six twins (Rv. i. 164, 15); but no single month could properly be called the twin.[1]

Nothing can be clearer than such passages as x. 8, 4:

Thou, O Vasu (sun), comest first at every dawn! thou wast the divider of the two twins, i. e. of day and night, of morning and evening, of light and darkness, of Indra and Agni, &c.

Let us now look to a verse (Rv. i. 66, 4) where Yama by itself is supposed to mean the twin, and more particularly Agni. The whole hymn is addressed to Agni, fire, or light, in his most general character. I translate literally:

Like an army let loose, he wields his force, like the flame-pointed arrow of the shooter. Yama is born, Yama will be born, the lover of the girls, the husband of the wives.

This verse, as is easily seen, is full of allusions, intelligible to those who listened to the poets, but to us perfect riddles, to be solved only by a comparison of similar passages, if such passages can be found. Now, first of all, I do not take Yama as the name of a deity, or as a proper name at all. But recollecting

[1] As to yamau and yamâḥ, see Rv. x. 117, 9; v. 57, 4; x. 13, 2.

the twinship of Agni and Indra, as representatives of day and night, I translate:

(One) twin is born, (another) twin will be born, i.e. Agni, to whom the hymn is addressed, is born, the morning has appeared; his twin, or, if you like, his other self, the evening, will be born.

The next words, 'the lover of the girls,' the 'husband of the wives,' contain, I believe, a mere repetition of the first hemistich. The light of the morning, or the rising sun, is called the lover of the girls, these girls being the dawns, from among whom he rises. Thus (i. 152, 4) it is said:

We see him coming forth, the lover of the girls,[1] the unconquerable.

Rv. i. 163, 8, the sun-horse, or the sun as horse, is addressed:

After thee there is the chariot; after thee, Arvan, the man; after thee, the cows; after thee, the host of the girls.

Here the cows and the girls are in reality but two representations of the same thing—the bright days, the smiling dawns.

Rv. ii. 15, 7, we read of Parâv*rig*, a name which, like *K*yavâna[2] and other names, is but a mask of the sun returning in the morning after his decline in the evening:

He (the old sun), knowing the hiding-place of the girls, rose up manifest, he the escaper; the lame (sun) walked, the blind (sun) saw; Indra achieved this when fired with Soma.

[1] Sâya*n*a rightly explains kanînâm by ushasâm.

[2] In i. 116, 10, it is said that the Asvins restored the old *K*yavâna to be again the husband of the girls.

The hiding-place of the girls is the hiding-place of the cows, the East, the home of the ever-youthful dawns; and to say that the lover of the girls[1] is there, is only a new expression for 'the twin is born.'

Lover (*gârah*), by itself, too, is used for the rising sun:

Rigveda, vii. 9, 1: The lover woke from the lap of the Dawn.

Rigveda, i. 92, 11: The wife (Dawn) shines with the light of the lover.

What, then, is the meaning of 'the husband of the wives'? Though this is more doubtful, I think it not unlikely that it was meant originally for the evening sun, as surrounded by the splendours of the gloaming, as it were by a more serene repetition of the dawn. The Dawn herself is likewise called the wife (iv. 52, 1); but the expression 'husband of the wives' is in another passage clearly applied to the sinking sun. Rv. ix. 86, 32: 'The husband of the wives approaches the end.'[2] If this be the right interpretation, 'the husband of the wives' would be the same as 'the twin that is to be born'; and the whole verse would thus receive a consistent meaning:

One twin is born (the rising sun, or the morning), another twin will be born (the setting sun, or the evening); the lover of the girls (the young sun), the husband of the wives (the old sun).[3]

[1] Pûshan is called the lover of his sister, the husband of his mother (vi. 55, 4 and 5; x. 3, 3: svásâram *gârâh* abhí eti pa*skâ*t).

[2] Nish*kri*ta, according to B. R., a rendezvous; but in our passage, the original meaning, to be undone, seems more appropriate.

[3] The following translations of this one line, proposed by different scholars, will give an idea of the difficulty of Vedic interpretation:

Yama, the Setting Sun.

There is, as far as I know, no other passage in the Rigveda where Yama, used by itself in the sense of twin, has been supposed to apply to Agni or the sun. But there are several passages, particularly in the last book, in which Yama occurs as the name of a single deity. He is called king (x. 14, 1); the departed acknowledge him as king (x. 16, 9). He is together with the Pitars, the fathers (x. 14, 4), with the Angiras (x. 14, 3), the Atharvans, Bhṛigus (x. 14, 6), the Vasishṭhas (x. 15, 8). He is called the son of Vivasvat (x. 14, 5), and an immortal son of Yama is mentioned (i. 83, 5). Soma is offered to him at sacrifices (x. 14, 13), and the departed fathers will see Yama, together with Varuṇa (x. 14, 7), and they will feast with the two kings (x. 14, 10). The king of the departed, Yama, is likewise the god of death (x. 165, 4)[1] and two dogs are mentioned who go about among men as his messengers (x. 14, 12). Yama, however, as well as his dogs, is likewise asked to bestow life, which originally could have been no more than to spare life (x. 14, 14; 14, 12).

Rosen: 'Sociatæ utique Agni sunt omnes res natæ, sociatæ illi sunt nascituræ, Agnis est pronubus puellarum, maritus uxorum.'

Langlois: 'Jumeau du passé, jumeau de l'avenir, il est le fiancé des filles, et l'époux des femmes.'

Wilson: 'Agni, as Yama, is all that is born; as Yama, all that will be born: he is the lover of maidens, the husband of wives.'

Kuhn: 'The twin (Agni) is he who is born; the twin is what is to be born.'

Benfey: 'A born lord, he rules over births; the suitor of maidens, the husband of wives.'

[1] Rv. i. 38, 5. The expression, 'the path of Yama,' may be used in an auspicious or inauspicious sense.

Is it possible to discover in this Yama, the god of the departed, one of the twins? I confess it seems a most forced and artificial designation; and I should much prefer to derive this Yama from yam, to control. Yet his father is Vivasvat, and the father of the twins was likewise Vivasvat. Shall we ascribe to Vivasvat three sons, two called the twins, Yamau, and another called Yama, the ruler? It is possible, yet it is hardly credible; and I believe it is better to try to walk in the strange footsteps of ancient language and ancient thought, however awkward they may seem at first. Yama was the setting sun and the evening; the question is how he became the king of the departed and the god of death.

As the East was to the early thinkers the source of life, the West was to them Nirṛiti, the *exodus*, the land of death. The sun, conceived as setting or dying every day, was the first who had trodden the path of life from East to West—the first mortal—the first to show us the way when our course is run, and our sun sets in the far West. Thither the fathers followed Yama; there they sit with him rejoicing, and thither we too shall go when his messengers (day and night, see p. 594) have found us out. These are natural feelings and intelligible thoughts. We find them among uncivilised and among civilised nations, we find them in ancient and modern times. We understand quite well what is meant when people say 'the sun of my life is setting,' or 'my sun is setting.' The Hervey islanders speak of old age as 'a mountain-top, yellow with the rays of the setting sun.' Natural

death with them is to follow in the track of the setting sun. To recover from sickness is to go to the region of sunrise.[1]

The Maoris have two proverbs. One is, 'When one great Chief dies, another great Chief lives,' the other proverb is, 'The sun goes down, when its course is run.' Sometimes the Maoris express their desire to go down with the sun, and as one of their songs says, 'Wait, wait awhile, O sun, and we will go down together.'[2]

The question then is, may we suppose that similar thoughts and feelings passed through the minds of our forefathers when they changed Yama, the twin-sun, the setting sun, into the ruler of the departed and the god of death?

That Yama's character is solar, might be guessed from his being called the son of Vivasvat. Vivasvat, like Yama, is sometimes considered as sending death. Rigveda, viii. 67, 20: 'May the shaft of Vivasvat, O Âditya, the poisoned arrow, not strike us before we are old!'

Yama, the God of Death.

Yama is said to have crossed the rapid waters, to have shown the way to many, to have first known the path on which our fathers crossed over (x. 14, 1 and 2). In a hymn addressed to the sun-horse, it is said that 'Yama brought the horse, Trita harnessed him, Indra first sat on him, the Gandharva took hold of his rein.' And, immediately after, the horse is

[1] W. W. Gill, *Life in the Southern Isles*, p. 29.
[2] *Life of Patuone*, by C. O. Davis (Auckland, 1876), p. 132.

said to be Yama, Âditya, and Trita (i. 163, 2 and 3). Again, of the three heavens, two are said to belong to Savitar, one to Yama (i. 35, 6). Yama is spoken of as if admitted to the company of the gods (x. 135, 1). His own seat is called the house of the gods (x. 135, 7); and these words follow immediately on a verse in which it is said: 'The abyss is stretched out in the East, the out-going is in the West.'[1]

These indications, though fragmentary, are sufficient to show that the character of Yama,[2] such as we find it in the last book of the Rigveda, might well have been suggested by the setting sun, personified as the leader of the human race, as himself a mortal, yet as a king, as the ruler of the departed, as worshipped with the fathers, as the first witness of an immortality to be enjoyed by the fathers, similar to the immortality enjoyed by the gods themselves. That the king of the departed should gradually have assumed the character of the god of death, requires no explanation. This, however, is the latest phase of Yama, and one that in the early portions of the Veda belongs to Varuṇa, who was, as we saw before, like Yama, one of the twins.

The mother of all the heavenly powers we have just examined, is the Dawn with her many names, πολλῶν ὀνομάτων μορφὴ μία, Aditi, the mother of the gods, or Apyâ yoshâ, the water-wife, Saraṇyû, the running

[1] Other passages to be consulted, Rv. i. 116, 2; vii. 33, 9; ix. 68, 3, 5; x. 12, 6; 13, 2; 13, 4; 53, 3; 64, 3; 123, 6. Also Pâraskara, Gṛihya-sûtras, translated by Oldenberg, pp. 343, 355.

[2] This whole subject has lately been treated in full detail by J. Ehni, *Der Vedische Mythus des Yama*, 1890.

light, Ahanâ, the bright, Argunî, the brilliant, Urvasî, the wide, &c. Beyond the Dawn, however, another infinite power was suspected, for which neither the language of the Vedic Rishis, nor that of any other poets or prophets, has yet suggested a fitting name.

Demeter Erinys.

If, then, as I have little doubt, the Greek *Erînys* is the same word as the Sanskrit Saranyû,[1] it is easy to see how, starting from a common thought, each deity assumed its peculiar aspect in India and in Greece. The Night was conceived by Hesiod as the mother of War, Strife, and Fraud, but she is likewise called the mother of Nemesis, or Vengeance.[2] Æschylus calls the Erinyes the daughters of Night, and we saw before a passage from the Veda (vii. 61, 5) where the Druh's, the mischievous powers of Night, were said to follow the sins of man. 'The Dawn will find you out' was a saying but slightly tainted by mythology. 'The Erinyes will haunt you' was a saying which not even Homer would have understood in its etymological sense. If the name of Erinys is sometimes applied to *Dêmêtêr*,[3] this is because *Dêô* was Dyâvâ, and *Dêmêtêr*, Dyâvâ mâtar, the Dawn, the mother,[4] corresponding to

[1] The loss of the initial aspirate is exceptional, but, as such, confirmed by well-known analogies. See Curtius, *Griechische Etymologie*, ii. 253; i. 309.

[2] M. M.'s *Essay on Comparative Mythology*, p. 40.

[3] Pausanias, viii. 25; Kuhn, *l. c.* i. 152.

[4] See Pott, in Kuhn's *Zeitschrift*, vi. p. 118, n. Demeter is not Ge-meter, mother earth.

Dyaush pitar, the sky, the father. It cannot surely be mere accident that *Erinys Demeter*, like Saranyû, was changed into a mare, that she was followed by *Poseidon*, as a horse, and that two children were born, a daughter (*Despoina*), and *Areion*. *Poseidon*, if he expressed the sun rising from the sea, would approach to Varuna, who, in one passage of the Veda, was called the father of the horse or of Yama.

Solar Mythology.

And now, after having explained the myth of Saranyû, of her father, her husband, and her children, in what, I think, was its original sense, it remains to state, in a few words, the opinions of other scholars who have analysed the same myth before, and have arrived at different conceptions of its original import. It will not be necessary to enter upon a detailed refutation of these views, as the principal difference between these and my own theory arises from the different points which we have chosen in order to command a view into the distant regions of mythological thought. I look upon the sunrise and sunset, on the daily return of day and night, on the battle between light and darkness, on the whole solar drama in all its details that is acted every day, every month, every year, in heaven and in earth, as the principal subject of early mythology. I consider that the very idea of divine powers sprang from the wonderment with which the forefathers of the Aryan family stared at the bright (deva) powers that came and went no one knew whence or whither, that never failed, never faded, never died, and were

called immortal, i. e. unfading, as compared with the feeble and decaying race of man. I consider the regular recurrence of phenomena an almost indispensable condition of their being raised, through the charms of mythological phraseology, to the rank of immortals, and I give a proportionately small space to meteorological phenomena, such as clouds, thunder, and lightning, which, although causing for a time a violent commotion in nature and in the heart of man, would not be ranked together with the immortal bright beings, but would rather be classed either as their subjects or as their enemies. It is the sky that gathers the clouds, it is the sky that thunders, it is the sky that rains; and the battle that takes place between the dark clouds and the bright sun, which for a time is covered by them, is but an irregular repetition of that more momentous struggle which takes place every day between the darkness of the night and the refreshing light of the morning.

Meteorological Mythology.

Quite opposed to this, the solar theory, is that proposed by Professor Kuhn, and adopted by the most eminent mythologians of Germany, which may be called the meteorological theory. This has been well sketched by Mr. Kelly in his *Indo-European Tradition and Folk-lore.*

> Clouds (he writes), storms, rains, lightning, and thunder, were the spectacles that above all others impressed the imagination of the early Aryans, and busied it most in finding terrestrial objects to compare with their ever-varying aspect. The beholders were at home on the earth, and the things of

the earth were comparatively familiar to them; even the coming and going of the celestial luminaries might often be regarded by them with the more composure because of their regularity; but they could never surcease to feel the liveliest interest in those wonderful meteoric changes, so lawless and mysterious in their visitations, which wrought such immediate and palpable effects, for good or ill, upon the lives and fortunes of the beholders. Hence these phenomena were noted and designated with a watchfulness and wealth of imagery which made them the principal groundwork of all the Indo-European mythologies and superstitions.

Professor Schwartz, in his excellent essays on Mythology,[1] ranges himself determinately on the same side:

> If, in opposition to the principles which I have carried out in my book, 'On the Origin of Mythology,' it has been remarked that in the development of the ideas of the Divine in myths, I gave too much prominence to the phenomena of the wind and thunderstorms, neglecting the sun, the following researches will confirm what I indicated before, that originally the sun was conceived implicitly as a mere accident in the heavenly scenery, and assumed importance only in a more advanced state in the contemplation of nature and the formation of myths.

These two views seem as diametrically opposed as two views of the same subject can possibly be. The one, the solar theory, looks to the regular daily revolutions in heaven and earth as the material out of which the variegated web of the religious mythology of the Aryans was woven, admitting only an interspersion here and there of the more violent aspects of storms, thunder and lightning; the other, the

[1] *Der heutige Volksglaube und das alte Heidenthum*, 1862 (p. vii.). *Der Ursprung der Mythologie*, 1860.

meteoric theory, looks upon clouds and storms and other convulsive aspects of nature as causing the deepest and most lasting impression on the minds of those early observers who had ceased to wonder at the regular movements of the heavenly bodies, and could only perceive a divine presence in the great strong wind, the earthquake, or the fire.

In accordance with this latter view, we saw that Professor Roth explained Saranyû as the dark storm-cloud soaring in space in the beginning of all things, and that he took Vivasvat for the light of heaven.[1] Explaining the second couple of twins first, he took them, the Asvins, to be the first bringers of light, preceding the dawn (but who are they?), while he discovered in the first couple, simply called Yama, the twin-brother, and Yamî, the twin-sister, the first created couple, man and woman, produced by the union of the damp vapour of the cloud and the heavenly light. After their birth he imagines that a new order of things began, and that hence, their mother—the chaotic, storm-tossed twilight—was said to have vanished. Without laying much stress on the fact that, according to the Rigveda, Saranyû became first the mother of Yama, then vanished, then bare the Asvins, and finally left both couples of children, it must be observed that there is not a single word[2] in the Rigveda pointing to Yama and Yamî as the first couple of mortals—

[1] *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, iv. p. 425.

[2] In the Atharva Veda, 18, 3, 13, an important passage, 'yo mamâra prathamo martyânâm,' was pointed out by Kuhn in Roth's *Nir.* p. 138. See also Haug, *Essays*, p. 234.

as the Indian Adam and Eve—or representing the first creation of man as taking place by the union of vapour and light. If Yama had been from the beginning the first created of men, surely the old Vedic poets, in speaking of him, could not have passed this over in silence.

Mythology changed into History.

Nor is *Yima*, in the Avesta, represented as the first man or as the father of all mankind.[1] He is one of the first kings, and his reign represents the ideal of human happiness, when there was as yet neither illness nor death, neither heat nor cold; but no more. The tracing of the further development of *Yima* in Persia was one of the last and one of the most brilliant discoveries of Eugène Burnouf. In his article, 'Sur le Dieu Homa,' published in the *Journal Asiatique*, he opened this entirely new mine for researches into the ancient state of religion and tradition, common to the Aryans before their schism. He showed that three of the most famous names in the epic poetry of the later Persians, *Jemshid*, *Feridûn*, and *Garshasp*, can be traced back to three heroes mentioned in the Zend-Avesta as the representatives of three of the earliest generations of mankind, *Yima-Khshaêta*, *Thraêtana*, and *Kereśaspa*, and that the prototypes of these Zoroastrian heroes could be found again in

[1] Spiegel, *Êrân*, p. 245. 'According to one account, the happiness of Jima's reign came to an end through his pride and untruthfulness. According to the earlier traditions of the *Avesta*, Jima does not die, but, when evil and misery begin to prevail on earth, retires to a smaller space, a kind of garden of Eden, where he continues his happy life with those who remained true to him.'

the Yama, Trita, and *Krisâsva* of the Veda. He went even beyond this. He showed that, as in Sanskrit, the father of Yama is Vivasvat, the father of *Yima* in the Avesta is *Vivanghvat*. He showed that as *Thraêtana*, in Persia, is the son of *Athwya*, the patronymic of Trita in the Veda is Aptya. He explained the transition of *Thraêtana* into *Feridûn* by pointing to the Pehlevi form of the name, as given by Neriosengh, *Phredun*. Burnouf, again, it was who identified *Zohâk*, the tyrant of Persia, slain by Feridun, whom even Firdusi still knows by the name of *Ash dahâk*, with the *Aji dahâka*, the biting serpent, as he translates it, destroyed by *Thraêtana* in the Avesta. Nowhere has the transition of physical mythology into epic poetry—nay, history—been so luculently shown as here. I may quote the words of Burnouf, one of the greatest scholars that France, so rich in philological genius, has ever produced :—

> Il est sans contredit fort curieux de voir une des divinités indiennes les plus vénérées, donner son nom au premier souverain de la dynastie ario-persanne ; c'est un des faits qui attestent le plus évidemment l'intime union des deux branches de la grande famille qui s'est étendue, bien des siècles avant notre ère, depuis le Gange jusqu'à l'Euphrate.[1]

Professor Roth has pointed out some more minute coincidences in the story of Jemshid, but his attempt at changing Yama and *Yima* into an Indian and Persian *Adam*, has proved a mistake.

Professor Kuhn was right, therefore, in rejecting this portion of Professor Roth's analysis. But, like

[1] *On the* Veda *and Zendavesta*, by M. M., p. 31.

Professor Roth, he takes Saraṇyû as the storm-cloud, and though declining to recognise in Vivasvat the heavenly light in general, he takes Vivasvat as one of the many names of the sun, and considers their first-born child, Yama, to mean Agni, the fire, or rather the lightning, followed by his twin-sister, the thunder. He then explains the second couple, the Asvins, to be Agni and Indra, the god of the fire and the god of the bright sky, and thus arrives at the following solution of the myth:—

> After the storm is over, and the darkness which hid the single cloud has vanished, Savitar (the sun) embraces once more the goddess, the cloud, who had assumed the shape of a horse running away. He shines, still hidden, fiery and with golden arms, and thus begets Agni, fire; he lastly tears the wedding veil, and Indra, the blue sky, is born.

The birth of Manu, or man, he explains as a repetition of that of Agni; and he looks upon Manu, or Agni, as the Indian Adam, and not, as Professor Roth, on Yama, the lightning.

It is impossible, of course, to do full justice to the speculations of these eminent men on the myth of Saraṇyû by giving this meagre outline of their views. Those who take an interest in the subject must consult their treatises, and compare them with the interpretations which I have proposed. I confess that, though placing myself in their point of view, I cannot grasp any clear or connected train of thoughts in the mythological process which they describe. I cannot imagine that men, standing on a level with our shepherds, should have conversed

among themselves of a dark storm-cloud soaring in space, and producing by a marriage with light, or with the sun, the first human beings, or should have called the blue sky the son of the cloud because the sky appears when the storm-cloud has been either embraced or destroyed by the sun. However, it is not for me to pronounce an opinion, and I must leave it to others, less wedded to particular theories, to find out which interpretation is more natural, more in accordance with the scattered indications of the ancient hymns of the Veda, and more consonant with what we know of the spirit of the most primitive ages of man.

CHAPTER XIII.

MODERN MYTHOLOGY.

The Influence of Language.

WHAT I mean by Modern Mythology is a subject so vast and so important that for the present all I can do is to indicate its character, and the wide limits within which its working may be discerned. After the definition which on several occasions I have given of Mythology, I need only repeat here that I include under that name all those cases in which language assumes an independent power, and reacts on the mind, instead of being, as it was intended to be, the mere realisation and outward embodiment of the mind.

In the early days of language the play of mythology was no doubt more lively and more widely extended, and its effects were more deeply felt, than in these days of mature speculation, when words are no longer taken on trust, but are constantly tested by means of logical definition. When language sobers down, when metaphors become less bold and more explicit, there is less danger of speaking of the sun as a horse, because a poet had called him the heavenly racer, or of speaking of Selene as enamoured

of Endymion, because a proverb had expressed the approach of night by the longing looks of the moon after the setting sun. Yet under a different form Language retains her silent charm; and if it no longer creates gods and heroes, it creates many a name that receives a similar worship. He who would examine the influence which words, mere words, have exercised on the minds of men, might write a history of the world that would teach us more than any which we yet possess. Words without definite meanings are at the bottom of nearly all our philosophical and religious controversies, and even the so-called exact sciences have frequently been led astray by the same Siren voice.

I do not speak here of that downright abuse of language when writers, without maturing their thoughts and arranging them in proper order, pour out a stream of hard and misapplied terms which are mistaken by themselves, if not by others, for deep learning and height of speculation. This sanctuary of ignorance and vanity has been well-nigh destroyed; and scholars or thinkers who cannot say what they wish to say consecutively and intelligibly have little chance in these days, or at least in this country, of being considered as depositaries of mysterious wisdom. *Si non vis intelligi debes negligi.* I rather think of words which everybody uses, and which seem to be so clear that it looks like impertinence to challenge them. Yet, if we except the language of mathematics, it is extraordinary to observe how variable is the meaning of words, how it changes from century to century, nay, how it

varies slightly in the mouth of almost every speaker. Such terms as *Nature, Law, Freedom, Necessity, Body, Substance, Matter, Church, State, Revelation, Inspiration, Knowledge, Belief*, are tossed about in the wars of words as if everybody knew what they meant, and as if everybody used them exactly in the same sense; whereas most people, and particularly those who represent public opinion, pick up these complicated terms as children, beginning with the vaguest conceptions, adding to them from time to time, perhaps correcting likewise at haphazard some of their involuntary errors, but never taking stock, never either inquiring into the history of the terms which they handle so freely, or realising the fulness of their meaning, according to the strict rules of logical definition. It has been frequently said that most controversies are about words. This is true; but it implies much more than it seems to imply. Verbal differences are not what they are sometimes supposed to be—merely formal, outward, slight, accidental differences, that might be removed by a simple explanation, or by a reference to 'Johnson's Dictionary.'[1] They are differences arising from the more or less perfect, from the more or less full and correct conception attached to words: it is the mind that is at fault, not the tongue merely.

If a child, after being taught to attach the name of *gold* to anything that is yellow and glitters, were to maintain against all comers that the sun is gold, the

[1] 'Half the perplexities of men are traceable to obscurity of thought, hiding and breeding under obscurity of Language.'—*Edinb. Review*, Oct. 1862, p. 378.

child no doubt would be right, because in his mind the name 'gold' means something that is yellow and glitters. We do not hesitate to say that a flower is edged with gold—meaning the colour only, not the substance. The child afterwards learns that there are other qualities, besides its colour, which are peculiar to real gold, and which distinguish gold from similar substances. He learns to stow away every one of these qualities into the name *gold*, so that at last gold with him means no longer anything that glitters, but something that is heavy, malleable, fusible, and soluble in *aqua regia*;[1] and he adds to these any other quality which the continued researches of each generation bring out. Yet in spite of all these precautions, the name *gold*, so carefully defined by the philosophers, will slip away into the crowd of words, and we may hear a banker discussing the market value of gold in such a manner that we can hardly believe he is speaking of the same thing which we last saw in the crucible of the chemist. We saw how the expression 'golden-handed,' as applied to the sun, led to the formation of a story which explained the sun's losing his hand, and having it replaced by an artificial hand made of gold. That is Ancient Mythology. Now if we were to say that of late years the supply of gold has been very much increased, and if from this we were to conclude that the increase of taxable property in this country was due to the discovery of gold in California, this would be Modern Mythology. We should use the

[1] Cf. Locke, iii. 9, 17.

name *gold* in two different senses. We should use gold in the one case as synonymous with realised wealth, in the other as the name of the circulating medium. We should commit the same mistake as the people of old, using the same word in two slightly varying senses, and then confounding one meaning with the other.

For let it not be supposed that even in its more naked form mythology is restricted to the earliest ages of the world.

Popular Etymology.

Though one source of mythology, that which arises from *radical* and *poetical* metaphor, is less prolific in modern than in ancient dialects, there is another agency at work in modern dialects which, though in a different manner, produces nearly the same results, namely, *phonetic decay*, followed by *popular etymology*. By means of phonetic decay many words have lost their etymological transparency; nay, words, originally quite distinct in form and meaning, have assumed occasionally the same form. Now, as there is in the human mind a craving after etymology, a wish to find out, by fair means or foul, why such a thing should be called by such a name, it happens constantly that words are still further changed in order to make them intelligible once more; or, when two originally distinct words have actually run into one, some explanation is required, and readily furnished, in order to remove the difficulty.[1]

[1] Cf. *Chips from a German Workshop*, vol. iii. p. 300, *seq.*; and *supra*, p. 468.

'La Tour sans venin,' which we mentioned before, is a case in point, but it is by no means the only case.

According to Mr. R. M. Bache, of the U. S. Coast Survey, a hill, a few miles from New-Haven, commonly called West Rock Ridge, was by a party of Swiss surveyors named *Madame Mère's Hill* in 1836, probably in memory of Napoléon's mother. It is now called *Mad Mare's Hill*, 'because a mare once went mad on it, and would let nobody come near it.'

Names of places are very liable to phonetic corruption and legendary misinterpretation.

A large rock in the midst of the Danube near Basiasch is called the *Papagei, rocher pointu, appelé le Perroquet.* Its real name is *Baba-Kay*, meaning the repentance of the old woman. The story told by the Walachians is that one of the fishermen had a very bad wife, and that when he could no longer endure her, he took her to this rock, and left her there alone to repent of her misdoings.[1]

We are naturally surprised when we find the name of Theben given to a fortress on the Danube, near to where the Waag falls into that river. We are told, however, that its original name was *Dewina* or *Dewiza*, maiden.[2]

The name of another well-known fortress, *Metz*, has often been explained as meaning *Maid*. But the old name of Metz was *Mediodunum*.

The people of Wiesbaden have a tradition that the *Neroberg* in their neighbourhood was so called be-

[1] K. Braun-Wiesbaden, *Eine türkische Reise*, p. 260, 1876.
[2] *L. c.* p. 105.

cause the Emperor Nero kept his wild animals there that were to devour the Christians. The innocent old name of the little hill was *Nehrsberg*.

In German, most people imagine that *Sündfluth*, the deluge, means the sin-flood; but *Sündfluth* is but a popular etymological adaptation of *sinfluot*, the great flood.

The name of *Antichrist* has been changed into *Endekrist*, as if it meant the Christ at the end of all things.

Many of the old signs of taverns contain what we may call hieroglyphic mythology. There was a house on Stoken Church Hill, near Oxford, exhibiting on its sign-board, 'Feathers and a Plum.' The house itself was vulgarly called the *Plum and Feathers*:[1] it was originally the *Plume of Feathers*, from the crest of the Prince of Wales.

A Cat with a Wheel is the corrupt emblem of St. Catherine's Wheel; the *Bull and Gate* was originally intended as a trophy of the taking of Boulogne by Henry VIII., it was the Boulogne Gate; and the *Goat and Compasses* have taken the place of the fine old Puritan sign-board, 'God encompasseth us.'[2]

There is much of this kind of popular mythology floating about in the language of the people, arising from a very natural and very general tendency,

[1] Brady, *Clavis Calendaria*, vol. ii. p. 13.

[2] *Chips from a German Workshop*, vol. iii. p. 304. Trench, *English Past and Present*, p. 223:

'The George and Cannon = the George Canning.
The Billy Ruffian = the Bellerophon (ship).
The Iron Devil = the Hirondelle.
Rose of the Quarter Sessions = la rose des quatre saisons.'

namely, from a conviction that every name must have a meaning. If the real and original meaning has once been lost, chiefly owing to the ravages of phonetic decay, a new meaning is at first tentatively, but very soon dogmatically, assigned to the changed name.

At Lincoln, immediately below the High Bridge, there is an inn bearing now the sign of the Black Goats. It formerly had the sign of the Three Goats, a name derived from the three gowts or drains by which the water from the Swan Pool, a large lake which formerly existed to the west of the city, was conducted into the bed of the Witham below. A public-house having arisen on the bank of the principal of these three gowts, in honour, probably, of the work when it was made, the name became corrupted into the Three Goats—a corruption easily accomplished in the Lincolnshire dialect.[1]

In the same town, a flight of steps by which the ascent is gained from about midway of what is called the New Road to a small ancient gateway, leading towards the Minster Yard, is called the *Grecian Stairs*. These stairs were originally called the *Greesen*, the early English plural of a *gree* or step. When *Greesen* ceased to be understood, *Stairs* was added by way of explanation, and the *Greesen Stairs* were, by the instinct of popular etymology, changed into *Grecian Stairs*.[2]

[1] See the Rev. Francis C. Massingberd, in the *Proceedings of the Archæological Institute*: Lincoln, 1848, p. 58. Gowt, sometimes pronounced *gyte*, is the same word as the German *Gosse*, gutter.

[2] See the Rev. Francis C. Massingberd, in the *Proceedings of the Archæological Institute*: Lincoln, 1848, p. 59. The same learned

The following local legend was sent me from Dorset:

The Vale of Blackmore in Dorset was till a late period a vast forest, chiefly of oaks, the river Stour running through it. Hence there were many oak-fords, fords by the oaks, which name is retained in several villages called Ockford. Three of these lie close together, Ockford Shilling, usually called Shillingston, Ockford Fitzpaine, usually called Fippen Ockford, and Childe Ockford.

The popular etymology is that, many years ago, a *child* still living was found in or on the banks of the Stour, where the three parishes join, and a dispute arose which was bound to keep the foundling. After a while *Childe* Ockford took the main cost of it, *Shilling* Ockford paying a shilling, and *Fippen* Ockford five pence a week towards its maintenance.

In fact, Shilling Ockford was the estate of the Eschellings, an old Dorset family, whose last representative Margaret Eschelling was a nun, and died at Shaftesbury some years after the suppression of the monasteries; Fippen Ockford

antiquary quotes several passages in support of the plural *greesen*. Thus Acts xxi. 40, instead of 'And when he had given him license, Paul stood on the *stairs*,' Wickliffe has: 'Poul stood on the *greezen*.' Shakespeare paraphrases *grize* (as he writes) by steps:

> 'Let me speak like yourself; and lay a sentence
> Which, as a *grize* or *step*, may help these lovers
> Into your favour.' *Othello*, Act I, Sc. iii.

In *Hackluyt's Voyages*, vol. ii. p. 57, we read: 'The king of the said land of Java hath a most brave and sumptuous palace, the most loftily built that I ever saw, and it hath most high *greeses*, or *stayers*, to ascend up to the rooms therein contained.'

'In expensis Stephani Austeswell, equitantis ad Thomam Ayleward, ad loquendum cum ipso apud Havant, et inde ad Hertynge, ad loquendum cum Dominâ ibidem, de evidenciis scrutandis de *Pe de Gre* progenitorum hæredum de Husey, cum vino dato eodem tempore, xx. d. ob.' From the Rolls of Winchester College, temp. Hen. IV., communicated by Rev. W. Gunner, in *Proceedings of Archæolog. Inst.* 1848, p. 64. This *Pé de Gré* is the old form of *pedigree*, lit. the foot of the steps, *le pied de l'escalier*. Another explanation of *pied* is that it meant tree in old French. See *Academy*, Dec. 1885, pp. 413, 429.

belonged to the Fitz Paines, and Childe Ockford may have been the manor occupied in the father's lifetime by the Childe, eldest son of one of these families.

We must, however, be on our guard. If there is a popular etymology which assigns new meanings to old names, there is also a popular etymology which assigns, and not always correctly, old meanings to new names. I was deceived myself by an apparently very plausible explanation of the name of one of the colleges of Oxford—Brasenose. Over the gate of the college there is a Brazen Nose, and the arms of the college display the same device, and have done so for several centuries. The charter entitling it 'The King's Hall and College of Brasenose,' is dated January 15, 1512, and there was a Brasenose Hall before that time. This name used to be explained as a corruption of *brasen-hûs*, *brasinium*, or *brew-house*, but there is no authority for such a word as *brasing* in Old English. The French word *brasserie* stands for *bracerie*, which is derived from *brace*, malt (*Bracium unde cerevisia fit*). The matter is one for the antiquarian rather than for the etymologist, and we must wait for further evidence.

Names or legends which have ceased to be intelligible, are frequently transferred from earlier to later times, and applied again and again to better known historical characters. Thus stories, told originally of some of their ancient deities, were repeated by the Germans, after their conversion to Christianity, by merely substituting the names of Christ or the Apostles for the beneficent, that of the Devil for the mischievous characters of their pagan mythology.

Popular heroes or illustrious sovereigns, such as Theodoric, Charlemagne, Frederick Barbarossa, nay, even Frederick the Great, served as attractive centres of popular traditions, the same story being grafted repeatedly on different stems, and slightly varying in its growth according to the varied circumstances under which it was revived, just as in our universities the same jokes are repeated from generation to generation, but always applied to new professors.

There is a legend that Charles the Fifth of France, and his men, who all fell in a great battle, were condemned for their crimes to wander over the world on horseback, constantly employed in fighting battles. This troop of riders was called *Maisnie Hellequin*, in Latin *familia Harlequini*, a name preserved in the English *Hurlewayne's meyné*, or *Hurlewaynis kynne*. Instead of *Hellequin*, *Henequin*, *Herlequin*, and other varieties also, are mentioned; but *Hellequin* is, through *Herlequin*, traced back to *Charlequin*, or *Charles Quint*.[1]

Professor Skeat would like to go even a step further, and trace back all these words to a supposed Old Frisian *helle kin* (Anglo-Saxon *helle cyn*, Icelandic *heljar kyn*), the kindred of hell. This he supposes to have become *li maisnie hierlekin*, and to have been explained after a time by *li maisnie Charles Quint*. There is, however, no historical evidence whatever in support of *hierlekin* as a corruption of *helle kin*.

[1] Thomas Wright, *Alliterative Poem on the Deposition of King Richard II.*, notes, p. 53; who quotes Grimm's *Mythologie*, p. 527; Le Roux de Lincy, *Livre des Légendes*, pp. 148–150; Michel Benoît, vol. ii. p. 336; Paulin Paris, Catalogue of French MSS. of the *Bibliothèque du Roi*, vol. i. pp. 322–325.

Another sovereign, Henry V, has taken the place of a more prosaic predecessor if, as we are assured, the French *l'huile d'Henry Cinq* is a corruption of *l'huile de ricin*, i. e. castor oil.[1]

Another curious case of popular etymology occurs in the French *courte-pointe*. This word means a coverlet, though, as Littré remarks, there is neither *courte* nor *pointe* in it. It is in fact a corruption of the Latin *culcitra* or *culcita puncta*, or *couverture piquée*. In Old French this word appears as *coutre-pointe*, *coulte-pointe*, and *coute-pointe*, and as *coutre*, *coulte*, and *coute* seemed to have no meaning, they were changed into *courte*.

But the same word has met with a still stranger fate in English, where it appears as *counterpane*. Shakespeare still knows the word as *counterpoint*, which has been explained by the Old French *contrepoincter*, to work the back stitch. It ought, however, to be traced back to *coutrepoincter*, to quilt, while *quilt* also is really a corruption of *culcita*, in French *cuilte*, the same as *coutre*.

The English proverb, 'to know a hawk from a handsaw,' was originally 'to know a hawk from a hernshaw,' a kind of heron.[2]

Court Cards were originally *Coat Cards*. Archdeacon Nares, in his *Glossary*, says :

> The figured cards, now corruptly called 'Court Cards'—knaves—we trust, are not confined to courts, though kings

[1] See an interesting article by B. M. Petilleau, *Excursion d'agrément à travers les mots*.

[2] Wilson, *Pre-historic Man*, p. 68. Cf. Pott, *Doppelung*, p. 81. Förstemann, *Deutsche Volksetymologie*, in Kuhn's *Zeitschrift*, vol. i. Latham, *History of the English Language*.

and queens belong to them. The proofs of it are abundant. One says:

'I am a Coat Card indeed.'

He is answered:

'Then thou must needs be a knave, for thou art neither king nor queen.'—Rowley, *When you see me, &c.*

'We called him a Coat Card of the last order.'

B. Jonson, *Staple of News.*

'She had in her hand the Ace of Hearts, and a Coat Card.'—Chapman's *May Day.*

'Here is a trick of discarded cards of us,
We were ranked with coats as long as my old master lived.'
—Massinger's *Old Law*, Act III. Sc. 1.

The change of name from *coat to court* cards probably dates about 1681, as Robertson's *Phrase Book*, published in that year, gives both words.

Barnacles.

One of the most curious instances of the power of popular etymology and mythology is seen in the English *Barnacle.* It is not often that we can trace a myth from century to century through the different stages of its growth, and it may be worth while, therefore, to analyse this fable of the Barnacle more in detail.

Barnacles, in the sense of spectacles, seem to be connected with the German word for spectacles, namely, *Brille*[1]. This German word is a corruption of *beryllus.* In a vocabulary of 1482 we find *brill, parill,* a masculine, a precious stone, shaped like

[1] Cf. Grimm, *D. W.* s. v. 'Brill.' Mr. Wedgwood derives *barnacles,* in the sense of spectacles, from Limousin *bourgna,* to squinny; Wall. *boirgni,* to look through one eye in aiming; Lang. *borni,* blind; *bornikel,* one who sees with difficulty; *berniques,* spectacles. *Vocab. du Berri.*

glass or ice (eise), *berillus* item or *bernlein*.[1] Sebastian Frank, in the beginning of the sixteenth century, still uses *barill* for eye-glass. The word afterwards became a feminine, and, as such, the recognised name for spectacles.

In the place of *beryllus*, in the sense of precious stone, we find in Provençal *berille*;[2] and in the sense of spectacles, we find the Old French *béricle*.[3] *Béricle* was afterwards changed to *bésicle*,[4] commonly, but wrongly, derived from *bis-cyclus*.

In the dialect of Berri[5] we find, instead of *béricle* or *bésicle*, the dialectic form *berniques*, which reminds us of the German *Bern-lein*.[6]

With this form *berniques* may be connected the English *bernicle*, and this *bernicle* would presuppose a mediæval Latin *bernicula*. This *bernicula* again, would stand for *beryllicula*, the *l* being changed into *n* to avoid repetition of *l*, as in *melanconico* for *melancolico*, in *filomena* for *filomela*. It is curious that in the same way as *Brille* in German is used in the sense of a piece of leather with spikes, put on the noses of young animals that are to be weaned, *barnacles* in English are squeezers put on the noses of horses to confine them for shoeing, bleeding, or

[1] 'Berillus (gemma, speculum presbiterorum aut veterum, d. i. brill).' Diefenbach, *Glossarium Latino-Germanicum*. 'Eise' may be meant for crystal.

[2] Raynouard, *Lexique roman*.

[3] *Dict. du vieux Français*: Paris, 1766, s. v.

[4] *Dict. Prov.-Français*, par Avril, 1839, s. v.

[5] *Voc. du Berri*, s. v.

[6] In the *Dict. du vieux Français*: Paris, 1766, *bernicles* occurs in the sense of *rien, nihil*. The *Oxford Dictionary*, s. v. *barnacle*, takes the sense of squeezers as the first, and derives it from Persian.

driving. Nevertheless *barnacles* in English seem unconnected with *bernicles*. The word occurs for a long time in the sense of squeezers or an instrument of torture only, and its application to spectacles is of a later date. In that case the etymology of the English *barnacles* is unknown, for it seems as difficult to derive it with Skinner from *bear* and *neck* as to take it with Marsh as borrowed from Persian.

Barnacle, in the sense of cirrhopode, has nothing to do either with *barnacles*, as squeezers, or with *barnacles* as spectacles. It is a diminutive of the Latin *perna*; *pernacula* being changed into *bernacula*.[1] Pliny[2] speaks of a kind of shells called *pernæ*, so called from their similarity with a leg of pork.

The bodies of these animals are soft, and enclosed in a case composed of several calcareous plates; their limbs are converted into a tuft of jointed *cirrhi* or fringes, which can be protruded through an opening in the sort of a mantle which lines the interior of the shell. With these they fish for food, very much like a man with a casting-net; and as soon as they are immersed in sea-water by the return of the flood, their

[1] Cf. Diez, *Grammatik*, p. 256. Bolso (pulsus), brugna and prugna (prunum), &c. *Berna*, instead of *Perna*, is actually mentioned in the *Glossarium Latino-Germanicum mediæ et infimæ ætatis*, ed. Diefenbach; also in Du Cange, *berna, suuinbache*. Skinner derives barnacle from *bearn*, filius, and A.S. *âc*, *oak*. Wedgwood proposes the Manx *bayrn*, a cap, as the etymon of *barnacle*; also *barnagh*, a limpet, and the Gaelic *bairneach*, barnacle; the Welsh *brenig*, limpet.

[2] Plin. *H. Nat.* 32, 55: 'Appellantur et pernæ concharum generis, circa Pontias insulas frequentissimæ. Stant velut suillo crure longo in arena defixæ, hiantesque, qua limpitudo est, pedali non minus spatio cibum venantur.'

action is incessant. They are generally found fixed on rocks, wooden planks, stones, or even on living shells; and after once being fixed, they never leave their place of abode. Before they take to this settled life, however, they move about freely, and, as it would seem, enjoy a much more highly organised state of life. They are then furnished with eyes, antennæ, and limbs, and are as active as any of the minute denizens of the sea.

There are two families of *Cirrhopodes*. The first, the *Lepadidæ*, are attached to their resting-place by a flexible stalk, which possesses great contractile power. The shell is usually composed of two triangular pieces on each side, and is closed by another elongated piece at the back, so that the whole consists of five pieces.

The second family, the *Balanidæ*, or sea-acorn, has a shell usually composed of six segments, the lower part being firmly fixed to the stone or wood on which the creature lives.

These creatures were known in England at all times, and they went by the name of *Barnacles*, i.e. *Bernaculæ*, or small muscles. Their name, though nearly identical in sound with *Barnacles*, in the sense of spectacles, had originally no connection whatever with that term, which was derived, as we found, from *beryllus*.

But now comes a new claimant to this name of *Barnacle*, namely, the famous *Barnacle Goose*. There is a goose called *Bernicla*; and though that goose has sometimes been confounded with a duck (the *Anas niger minor*, the *Scoter*, the French *Macreuse*), yet

there is no doubt that the Barnacle goose is a real bird, and may be seen drawn and described in any good Book on Birds.[1] But though the bird is a real bird, the accounts given of it, not only in popular, but in scientific works, form one of the most extraordinary chapters in the history of Modern Mythology.

I shall begin with one of the latest accounts, taken from the *Philosophical Transactions*, No. 137, January and February 1677–8. Here, in *A Relation concerning Barnacles*, by Sir Robert Moray, lately one of His Majesty's Council for the Kingdom of Scotland, we read (p. 925):

In the Western Islands of Scotland much of the Timber, wherewith the Common people build their Houses, is such as the West-Ocean throws upon their Shores. The most ordinary Trees are Firr and Ash. They are usually very large, and without branches; which seem rather to have been broken or worn off than cut; and are so Weather-beaten, that there is no Bark left upon them, especially the Firrs. Being in the Island of East, I saw lying upon the shore a cut of a large Firr-tree of about 2½ foot diameter, and 9 or 10 foot long; which had lain so long out of the water that it was very dry: And most of the Shells, that had formerly cover'd it, were worn or rubb'd off. Only on the parts that lay next the ground, there still hung multitudes of little Shells; having within them little Birds, perfectly shap'd, supposed to be Barnacles.

[1] Linnæus describes it, sub 'Aves, Anseres,' as No. 11, Bernicla, A. fusca, capite collo pectoreque nigris, collari albo. Branta s. Bernicla. Habitat in Europa boreali, migrat super Sueciam.'

Willoughby, in his *Ornithology*, book iii, says: 'I am of opinion that the Brant-Goose differs specifically from the Bernacle, however writers of the History of Birds confound them, and make these words synonymous.' Mr. Gould, in his *Birds of Europe*, vol. v, gives a drawing of the Anser leucopsis, Bernacle Goose, l'oie bernache, sub No. 350; and another of the Anser Brenta, Brent Goose, l'oie cravant, sub No. 352.

The Shells hung very thick and close one by another, and were of different sizes. Of the colour and consistence of Muscle-Shells, and the sides or joynts of them joyned with such a kind of film as Muscle-Shells are; which serves them for a Hing to move upon, when they open and shut. . . .

The Shells hang at the Tree by a Neck longer than the Shell. Of a kind of Filmy substance, round, and hollow, and creassed, not unlike the Wind-pipe of a Chicken; spreading out broadest where it is fastened to the Tree, from which it seems to draw and convey the matter which serves for the growth and vegetation of the Shell and the little Bird within it.

This Bird in every Shell that I opened, as well the least as the biggest, I found so curiously and compleatly formed, that there appeared nothing wanting, as to the internal parts, for making up a perfect Seafowl: every little part appearing so distinctly, that the whole looked like a large Bird seen through a concave or diminishing Glass, colour and feature being every where so clear and neat. The little Bill like that of a Goose, the Eyes marked, the Head, Neck, Breast, Wings, Tail, and Feet formed, the Feathers every where perfectly shap'd, and blackish coloured; and the Feet like those of other Water-fowl, to my best remembrance. All being dead and dry, I did not look after the Internal parts of them. . . . Nor did I ever see any of the little Birds alive, nor met with any body that did. Only some credible persons have assured me they have seen some as big as their fist.

Here, then, we have, only 200 years ago, a witness who, though he does not vouch to having seen the actual metamorphosis of the Barnacle shell into the Barnacle goose, yet affirms before a scientific public that he saw within the shell the bill, the eyes, head, neck, breast, wings, tail, feet, and feathers of the embryo bird.

As we go back, witnesses become more frequent. In 1653, Walton, in the *Angler*, p. 189, speaks of barnacles and young goslings, bred by the sun's heat and the rotten planks of an old ship, and hatched of trees.

In the *Hakluyt Voyages*, ii. 1. 63, in the year 1599, we are informed 'that certain trees stand upon the shore of the Irish sea, having fruit like unto a gourd, which . . . do fall into the waters and become birds called *Barnacles*.'

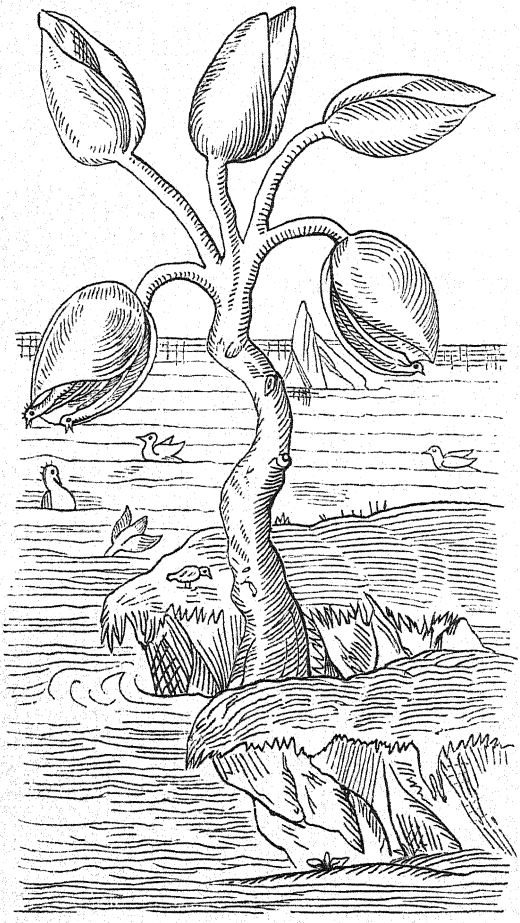
Florio, in 1598, speaks of 'Anitra . . . the birde that breedes of a *barnikle* hanging upon old ships.'

Campion, in 1581, in his *History of Ireland*, iii. (1633), p. 10, mentions *barnacles*, 'thousands of which are noted along the shoares hanging by the beakes about the edges of putrified timber, which in processe taking lively heate of the Sunne, become water-foules.'

John Gerarde, of London, Master in Chirurgerie, gives us in his *Herball*, published in 1597, a lively picture of the tree, with birds issuing from its branches, swimming away in the sea or falling dead on the land, and he adds the following description (p. 1391):

> There are founde in the north parts of Scotland, and the Ilands adjacent, called Orchades, certaine trees, whereon doe growe certaine shell fishes, of a white colour tending to russet; wherein are conteined little living creatures; which shels in time of maturitie doe open, and out of them grow those little living foules, whom we call Barnakles, in the north of England Brant Geese, and in Lancashire tree Geese; but the other that do fall upon the land, perish and come to nothing: thus much by the writings of others, and also from the mouths of people of those parts, which may very well accord with truth.
>
> But what our eies have seene, and hands have touched, we shall declare. There is a small Ilande in Lancashire called the Pile of Foulders, wherein are found the broken peeces of old and brused ships, some whereof have beene cast thither by shipwracke, and also the trunks or bodies with the branches of old and rotten trees, cast up there likewise: whereon is found a certaine spume or froth, that in time breedeth unto

Fig. 28.



COPIED FROM GERARDE'S 'HERBALL.'

certaine shels, in shape like those of the muskle, but sharper pointed, and of a whitish colour; wherein is conteined a thing

in forme like a lace of silke finely woven, as it were together, of a whitish colour; one ende whereof is fastened unto the inside of the shell, even as the fish of Oisters and Muskles are; the other ende is made fast unto the belly of a rude masse or lumpe, which in time commeth to the shape and forme of a Bird: when it is perfectly formed, the shel gapeth open, and the first thing that appeereth is the foresaid lace or string; next come the legs of the Birde hanging out; and as it groweth greater, it openeth the shell by degrees, till at length it is all come foorth, and hangeth only by the bill; in short space after it commeth to full maturitie, and falleth into the sea, where it gathereth feathers, and groweth to a foule, bigger than a Mallard, and lesser than a Goose; having blacke legs and bill or beake, and feathers blacke and white, spotted in such manner as is our Magge-Pie, called in some places a Pie-Annet, which the people of Lancashire call by no other name then a tree Goose; which place aforesaide, and all those parts adjoining, do so much abound therewith, that one of the best is bought for three pence: *for the truth heerof, if any doubt, may it please them to repaire unto me, and I shall satisfie them by the testimonie of good witnesses.*

That this superstition was not confined to England, but believed in by the learned all over Europe, we learn from *Sebastian Munster*, in his *Cosmographia Universalis*, 1550, dedicated to Charles V. He tells the same story, without omitting the picture; and though he mentions the sarcastic remark of *Æneas Sylvius*, about miracles always flying away to more remote regions, he himself has no misgivings as to the truth of the bird-bearing tree, vouched for, as he remarks, by *Saxo Grammaticus* (died 1204). This is what he writes:—

In Scotia inveniuntur arbores, quæ producunt fructum foliis conglomeratum: et is cum opportuno tempore decidit in subjectam aquam, reviviscit convertiturque in avem vivam, quam vocant anserem arboreum. Crescit et hæc arbor in insula

Pomonia, quæ haud procul abest a Scotia versus acquilonem. Veteres quoque Cosmographi, præsertim Saxo Grammaticus mentionem faciunt hujus arboris, ne putes esse figmentum a novis scriptoribus excogitatum.[1]

The next account of these extraordinary geese I shall take from Hector Boece (1465–1536), who in 1527 wrote his history of Scotland in Latin, which soon after was translated into English. The history is preceded by a Cosmography and Description of Albion, and here we read, in the fourteenth chapter:[2]

Of the nature of claik geis, and of the syndry maner of thair procreation, And of the Ile of Thule, capitulo xiiii.

Restis now to speik of the geis generit of the see namit clakis. Sum men belevis that thir clakis growis on treis be the nebbis. Bot thair opinioun is vane. And becaus the nature and procreatioun of thir clakis is strange, we have maid na lytyll lauboure and deligence to serche ye treuth and verite yairof, we have salit throw ye seis quhare thir clakis ar bred, and I fynd be gret experience, that the nature of the seis is mair relevant caus of their procreatioun than ony uthir thyng. And howbeit thir geis ar bred mony syndry wayis, thay ar bred ay allanerly by nature of the seis. For all treis that ar cassin in the seis be proces of tyme apperis first wormeetin, and in the small boris and hollis thairof growis small wormis. First thay schaw their heid and feit, and last of all thay schaw thair plumis and wyngis. Finaly quhen thay

[1] Seb. Munster, p. 49. I have never been able to find the passage in *Saxo Grammaticus*. Albertus Magnus also, in the middle of the 13th century, knew the story. He calls the creatures *barbates*, which may be meant for *barbiates*; see pp. 677, 681.

[2] The hystory and Chroniclis of Scotland, with the Cosmography and dyscription thairof, compilit be the noble clerk maister Hector Boece channon of Aberdene. Translatit laitly in our vulgar and commoun langage, be maister Johne Bellenden Archedene of Murray, And Imprentit in Edinburgh, be me Thomas Davidson, prenter to the Kyngis nobyll grace' (about 1540).

ar cumyn to the just measure and quantite of geis, thay fle in the aire, as othir fowlis dois, as was notably provyn in the yeir of god ane thousand iiii hundred lxxxx in sicht of money pepyll besyde the castell of Petslego, ane gret tre was brocht be alluvion and flux of the see to land. This wonderfull tre was brocht to the lard of the ground, quhilk sone efter gart devyde it be ane saw. Apperit than ane multitude of wormis thrawing thaym self out of syndry hollis and boris of this tre. Sum of thaym war rude as thay war but new schapin. Sum had baith heid, feit, and wyngis, bot they had no fedderis. Sum of thaym war perfit schapin fowlis. At last the pepyll havand ylk day this tre in mair admiration, brocht it to the kirk of Sanct Androis besyde the town of Tyre, quhare it remains yet to our dayis. And within two yeris efter hapnit sic ane lyk tre to cum in at the firth of Tay besyde Dunde wormeetin and hollit full of young geis in the samyn maner. Siclike in the port of Leith beside Edinburgh within few yeris efter hapnit sic ane lyke cais. Ane schip namit the Christofir (efter that scho had lyin iii yeris at ane ankir in ane of thir Ilis, wes brocht to leith. And becaus hir tymmer (as apperit) failyeit, sho was brokin down. Incontinent apperit (as afore) al the inwart partis of hir wormeetin, and all the hollis thairof full of geis, on the samyn maner as we have schawin. Attoure gif ony man wald allege be sane argument, that this Christofer was maid of fir treis, as grew allanerly in the Ilis, and that all the rutis and treis that growis in the said Ilis ar of that nature to be fynaly be nature of the seis resolvit in geis, We preif the cuntre thairof be ane notable example schawin afore our ene. Maister Alexander Galloway person of Kynkell was with ws in thir Ilis, gevand his mynd with maist ernist besynes to serche the verite of thir obscure and mysty dowtis. And be adventure liftit up ane see tangle hyngand full of mussill schellis fra the rute to the branchis. Sone efter he opnit ane of thir mussyll schellis, bot than he was mair astonist than afore. For he saw na fische in it bot ane perfit schapin foule smal and gret ay effering to the quantite of the schell. This clerk knawin ws richt desirus of sic uncouth thingis, come haistely with the said tangle, and opnit it to ws with all circumstance afore rehersit. Be thir and mony othir resonis and examplis we can

not beleif that thir clakis ar producit be ony nature of treis or rutis thairof, but allanerly by the nature of the Occeane see, quhilk is the caus and production of mony wonderful thingis. And becaus the rude and ignorant pepyl saw oftymes the frutis that fel of the treis (quhilkis stude neir the see) convertit within schort tyme in geis, thai belevit that thir geis grew apon the treis hingand be thair nebbis siclik as appillis and uthir frutis hingis be thair stalkis, bot thair opinioun is nocht to be sustenit. For als sone as thir appillis or frutis fallis of the tre in the see flude, thay grow first wormeetin. And be schort process of tyme ar alterat in geis.

About 1400 Maundeville, writing of the Bernakes, says: 'In oure countree weren trees, that beren a fruyt, that becomes briddes fleeynge.'

In 1387 Trevisa (*Higden Roll Series*, i. 335) relates: 'There beeth bernakes foules liche to wylde gees; kynde bryngeth hem forth wonderliche out of trees.'

On an old Catalan Map (A.D. 1375), published in the *Notices et Extraits des Manuscrits de la Bibliothèque du Roi*, vol. xiv, by MM. Buchon and Tastu, there is the following note on Ireland:

Encara mes, hi a arbres als quals auçels hi sont portats axi con a figam madura. (Bien plus, il y a des arbres qui portent des oiseaux comme d'autres arbres portent des figues mûres.)

The editor adds:

Fazio degli Uberti, amplificateur et traducteur à la fois de Solinus, semble avoir servi de guide au redacteur des petites légendes écrites sur l'Atlas Catalan. Fazio écrivait son poème *Il Dittamondo* vers les années 1355-1367. On lit (cap. xxiii, lib. iv):—

Non diedi fé, ma fama è tra costoro
Ch'arbor vi son di tanta maraviglia
Che fanno uccelli, e questo è il frutto loro.[1]

[1] *Voyez encore Münster et Fr. de Belle-Forest, Cosmographie universelle*, p. 800, ed. de 1575.

The Jews also seem to have been interested in this question, which touched them by raising a doubt whether Barnacle geese should be killed as flesh or as fish. Mordechai (Riva, 1559, leaf 142 a) asks whether these birds are fruits, fish, or flesh, i.e. whether they must be killed in the Jewish way, as they would if they were flesh. He describes them as birds which grow on trees, and he says that *Rabbi Jehudah* of Worms (died 1216) used to say that he had heard from his father, Rabbi Samuel of Speyer (about 1150), that *Rabbi Jacob Tham* of Ramerü (died 1171, the grandson of the great *Rabbi Rashi*, about 1140) had decided that they must be killed as flesh. This would carry the legend back to the twelfth century; and it is certain, at all events, that Rabbi Isaak of Corbeil, in his 'Sofer Mizwoth Katan' (1277) prohibited the eating of Barnacle geese altogether, because they were neither flesh nor fish.[1]

The 'Zohar' again, which is supposed to have been compiled, not to say forged, by its first editor, *Moses ben Shem Tob de Leon*, in the latter half of the thirteenth century, states that Rabbi Ává had seen trees whose branches became birds which grew out of them.

In the thirteenth century the legend seems widely spread all over Europe. *Vincentius Bellovacensis* (1190–1264), in his *Speculum Naturæ* xvii. 40 (not as usually quoted xvi. 40), states that Pope Innocent III, at the General Lateran Council, 1215, had to prohibit the eating of Barnacle geese during Lent. He writes:

[1] See *Monatsschrift für Geschichte und Wissenschaft des Judenthums*, ed. Frankel. Graetz, 1869, Februar.

Barliates sunt aves de ligno crescentes, quas vulgus *bernestas* sive *bernekas* appellat. Fertur enim quod lignum de abiete marinis aquis incidens quum successu temporis putrescere ceperit, humorem ex se crassum emittit: ex quo densato formantur parvæ species avium ad magnitudinem alaudarum. Primumque sunt nudæ. Deinde maturantes plumescunt ac rostris ad lignum pendentes per mare fluitant usque ad maturitatem, donec se commorantes abrumpant sicque crescant et roborentur usque ad debitam formam. Has multas et ipsi vidimus virosque fide dignos qui eas adhuc pendentes se vidisse testati sunt. Anseribus minores sunt, colorem habent cinereum ac nigrum; pedes ut anates, sed nigros. De his autem Jacobus Achonensis episcopus in Orientali Historia loquens dicit quod arbores sunt super ripas maris, de quibus hæ procreantur, rostris infixis arboribus dependentes. Tempore vero maturitatis ex arboribus decidunt, ac per incrementa perficientes sicut aves ceteræ volare incipiunt. Verumtamen nisi decidentes cito aquam invenerint, vivere non possunt, quum in aquis est nutrimentum earum et vita. Notandum autem quod non in ramorum summitatibus, sed in arborum corticibus ac stipitibus pendent. Crescunt autem arboris humore et roris infusione, donec habentes plumas ac robur vitæ corticibus abrumpantur. De his itaque certum est quod in orbe nostro circa Germaniam nec per coitum gignunt nec generantur. Sed nec earum coitum apud nos ullus hominum vidit. Unde et carnibus earum in XL nonnulli etiam Christiani in nostra ætate in locis ubi avium hujusmodi copia est uti solebant. Sed Innocentius papa tertius in Lateranensi Concilio generali hoc ultra fieri vetuit. Hæ volucres herbis et graminibus (ut anseres), vivunt, potum vero differre sicca comedentes nullatenus possunt.

The *Jacobus Achonensis*, episcopus, whom Vincentius quotes, is *Jacob de Vitriaco* (died in 1244). In his 'Historia Orientalis,' cap. 91, he gives the following account:

In quibusdam partibus Flandriæ aves ex arboribus procreantur rostris arboribus infixis dependentes; postquam autem tempus maturitatis advenerit, ex ramis statim decidunt, et sicut aliæ

volucres volare incipiunt. Carnis autem earum in quadragesima manducant, nec aliqua admiratione ducuntur qui talia videre frequenter consueverunt.

The chief authority, however, of Vincentius Bellovacensis is *Thomas Cantimpratensis*, the famous author of the *Bonum Universale de Apibus*. He was likewise the author of the *Liber de Naturâ Rerum*, which has never been published, though it was one of the principal storehouses for those who wrote on natural history during the Middle Ages. He was a pupil of *Albertus Magnus*. His book, *De Naturâ Rerum*, was written about 1230–1244; he says himself that he spent nearly fifteen years over it. In a German translation of his work by *Konrad von Meggenberg* (ed. Pfeiffer, Stuttgart, 1861), we find the following short account of our bird, there called the *Bachat*:—

Bachadis haizt ain bachad und haizt etswâ ain wek. das ist ain vogel der wehst von holz, und das holz hât vil äst an im, dar auz die vögel wachsent, alsô daz ir zemêl vil an dem paum hangt, die vögel sint klainer, wan die gens und habent füsz sam die änten, sie sint aber swarz an der varb reht sam aschenvar, si hangent an den paumen mit den snäbeln und hangent an den rinden und an den stammen der paum, si vallent pei zeit in daz mer und wachsent auf dem mer, unz si beginnent ze fliegen. etlaich läut âzen die vögel, aber Innocentius der vierd pâbist des namen verpôt die selben vögel in einem concili ze Lateran.

In the beginning of the thirteenth century, and before the Lateran Council, *Gervasius of Tilbury* mentions the same story with greater detail, and localises it in England. In his *Otia Imperialia* (written about 1211) he says (iii. 123):

De avibus ex arboribus nascentibus, cum secundum insitam

primam creationis naturam ex primis generantibus animalia prodeant per generationem et corruptionem, novum et inauditum est apud omnes peræque nationes quod in quadam majoris Britanniæ parte quotidianum est. Ecce enim in archiepiscopatu Cantuariensi, comitatu Cantiæ, ad confinium abbatiæ de Faverhesham in littore maris arbusculæ nascuntur ad quantitatem salicum. Ex istis nodi pullulant velut futuræ germinationis pronuntii, cumque secundum tempora creationis excreverint, formantur in aviculas, quæ post dies naturæ datos rostro dependent, et vivificatæ, facta leni alarum succussatione quasi puerperio consummato, in mare decidunt, et quandoque marinis fluctibus expositæ, humanis contactibus subtrahuntur. Aves istæ ad quantitatem modicorum anserum crescunt, pennis variis et aucinis intermixtæ. Quadragesimali tempore assatæ comeduntur, considerata potius ad hoc nativa processione, quam carnis sapiditate. Avem vulgus *barnetam* nominat.

Nay, even as far back as the twelfth century we find, in the time of Henry II. (1154–89), the same story, and even then so firmly established that *Giraldus Cambrensis* found it necessary to protest against the custom then prevailing of eating these Barnacle geese during Lent, because they were not birds but fishes. This is what Giraldus says in his *Topographia Hiberniæ*:[1]

[1] Silvester Giraldus Cambrensis, *Topographia Hiberniæ*, in *Anglica, Normannica, Hibernica, Cambrica, a veteribus scripta*. Frankofurti, 1603, p. 706 (under Henry II., 1154–89).

'Sunt et aves hic multæ quæ Bernacæ vocantur: quas mirum in modum contra naturam natura producit: Aucis quidem palustribus similes, sed minores. Ex lignis namque abiegnis per æquora devolutis, primo quasi gummi nascuntur. Dehinc tamquam ab alga ligno cohærente conchylibus testis ad liberiorem formationem inclusæ, per rostra dependent: et sic quousque processu temporis firmam plumarum vestituram indutæ vel in aquas decidunt, vel in aëris libertatem volatu se transferunt, ex succo ligneo marinoque occulta nimis admirandaque seminii ratione alimenta simul incrementaque suscipiunt. Vidi multoties oculis meis plus quam mille minuta hujusmodi avium corpuscula, in littore maris ab uno ligno dependentia testis inclusa et jam formata.

There are in this place many birds which are called *Bernacæ*: against nature, nature produces them in a most extraordinary way. They are like marsh-geese, but somewhat smaller. They are produced from fir timber tossed along the sea, and are at first like gum. Afterwards they hang down by their beaks as if from a seaweed attached to the timber, surrounded by shells, in order to grow more freely. Having thus, in process of time, been clothed with a strong coat of feathers, they either fall into the water or fly freely away into the air. They derive their food and growth from the sap of the wood or the sea, by a secret and most wonderful process of alimentation. I have frequently, with my own eyes, seen more than a thousand of these small bodies of birds, hanging down on the sea-shore from one piece of timber, enclosed in shells, and already formed. They do not breed and lay eggs, like other birds; nor do they ever hatch any eggs; nor do they seem to build nests in any corner of the earth. Hence bishops and clergymen in some parts of Ireland do not scruple to dine of these birds at the time of fasting, because they are not flesh, nor born of flesh. But these are thus drawn into sin; for if a man during Lent had dined of a leg of Adam, our first parent, who was not born of flesh, surely we should not consider him innocent of having eaten what is flesh.

Then follows more to the same effect, which we may safely leave out. What is important is this, that in the twelfth century the belief in the miraculous transformation of the Barnacle shell into the Barnacle goose was as firmly established as in the seventeenth century; and that, on that belief, another

Non ex harum coitu (ut in avibus assolet) ova gignuntur, non avis in earum procreatione unquam ovis incubat: in nullis terrarum angulis vel libidini vacare vel nidificare videntur. Unde et in quibusdam Hiberniæ partibus, avibus istis tamquam non carneis quia de carne non natis, episcopi et viri religiosi jejuniorum tempore sine delictu vesci solent. Sed hi quidem scrupulose moventur ad delictum. Si quis enim ex primi parentis carnei quidem, licet de carne non nati, femore comedisset, eum a carnium esu non immunem arbitrarer.'

belief had grown up, namely, that Barnacle geese might safely be eaten during Lent. I am informed that in Brittany Barnacles are still allowed to be eaten on Fridays, and that the Roman Catholic Bishop of Ferns may give permission to people out of his diocese to eat these birds at his table.

How long before Giraldus the fable existed it is difficult to tell. I find, however, that a cardinal of the eleventh century, *Petrus Damianus*, refers to a similar story in one of his letters. Speaking, as it would seem of India, or of an island near India, he says:

> Unde et terra illa occiduis partibus hanc consecuta est dignitatem ut ex arborum ramis volucres prodeant, et ad pomorum similitudinem animati atque pennati fructus erumpant? Sicut enim referunt, qui se vidisse testantur, paulatim incidit pendulum quid ex ramo suspendi, deinde in imaginem volucris, speciemque formari: postremo quantulumcumque plumescens, hiatu rostri sese ab arbore dividit, sicque novus aëris habitator ante pæne discit volare quam vivere. Enimvero quis tot virtutis divinæ magnalia quæ contra communem naturam ordinem fiunt, enumerare sufficiat.[1]

This passage is supposed to rest on the authority of Eustathius, in his *Commentary on the Hexameron*, published by Leo Alsatius in 1629. But that Commentary is now admitted not to be the work of Eustathius, nor does it seem to contain the passage quoted by Petrus Damianus.

It must not be supposed that, during the five centuries through which we have traced this legend, it was never contradicted. It was contradicted by Albertus Magnus (died 1280), who declares that he

[1] *Epist.* lib. ii. ep. xvii. p. 238. Paris, 1610.

saw these birds lay eggs and hatch them.[1] It was contradicted by Roger Bacon (died 1294). Æneas Sylvius[2] (afterwards Pope Pius II., 1458–64), when on a visit to King James (1393–1437; reigned 1424–37), inquired after the tree, and he complains that miracles will always flee farther and farther; for when he came to Scotland to see the tree, he was told that it grew farther north in the Orchades.

In 1599, Dutch sailors, who had visited Greenland, gave a full description of how they found there the eggs of the real Barnacle geese (which they in Dutch called *rotgansen*); how they saw them hatching, and heard them cry *rot, rot, rot*; how they killed one of them with a stone, and ate it, together with sixty eggs.[3]

[1] 'Barbates mentiendo quidam dicunt aves: quas vulgus bonngas (baumgans?) vocat: eo quod ex arboribus nasci dicuntur a quibus stipite et ramis dependent: et succo qui inter corticem est nutritæ: dicunt etiam aliquando ex putridis lignis hæc animalia in mari generari: et præcipue ex abietum putredine, asserentes quod nemo unquam vidit has aves coire vel ovare: et hoc omnino absurdum est: quia ego et multi mecum de sociis vidimus eas et coire et ovare et pullos nutrire sicut in antehabitis diximus: hæc avis caput habet quasi pavonis. Pedes autem nigros ut cygnus: et sunt membrana conjuncti digiti ad natandum: et sunt in dorso cinereæ nigredinis: et in ventre subalbidæ, aliquantum minores anseribus.'—*De Animalibus*, lib. xxiii. p. 186.

[2] 'Scribit tamen Eneas Sylvius de hac arbore in hunc modum: "Audiveramus nos olim arborem esse in Scotia, quæ supra ripam fluminis enata fructus produceret, anetarum formam habentes, et eos quidem cum maturitati proximi essent sponte sua decidere, alios in terram, alios in aquam, et in terram dejectos putrescere, in aquam vero demersos, mox animatos enatare sub aquis et in aerem plumis pennisque evolare. De qua re cum avidius investigaremus dum essemus in Scotia apud Jacobum regem, hominem quadratum et multa pinguedine gravem, didicimus miracula semper remotius fugere, famosamque arborem non in Scotia sed apud Orchades insulas inveniri." '—Seb. Munster, *Cosmographia*, p. 49.

[3] *Trois Navigations faites par les Hollandais au Septentrion*, par Gerard de Vora. Paris, 1599, p. 112.

Nevertheless, the old legend appeared again and again, and the birds continued to be eaten by the priests during Lent, without any qualms of conscience. *Aldrovandus*, in his *Ornithologia*, 1603 (lib. xix.), tells us of an Irish priest, of the name of Octavianus, who assured him with an oath on the Gospel that he had seen the birds in their rude state and handled them. And *Aldrovandus* himself, after weighing all the evidence for and against the miraculous origin of the Barnacle goose, arrived at the conclusion that it is better to err with the majority than to argue against so many eminent writers.[1] In 1629 a Count Maier published at Frankfort a book, *De Volucri Arborea* (On the Tree-bird), in which he explains the whole process of its birth, and indulges in some most absurd, not to say blasphemous speculations.[2]

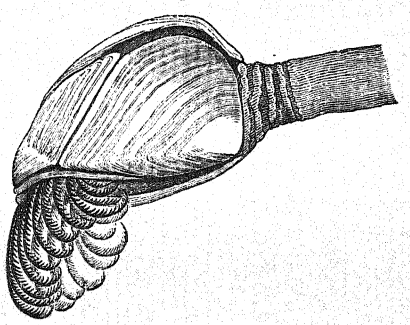
But how did this extraordinary story arise? Why should anybody ever have conceived the idea that a bird was produced from a shell; and this particular bird, the Barnacle goose, from this particular shell, the Barnacle shell? If the story was once started, there are many things that would keep it alive; and its vitality has certainly been extraordinary. There are certain features about this Barnacle shell which

[1] 'Malim tamen cum pluribus errare quam tot scriptoribus clarissimis oblatrare quibus præter id quod de ephemero dictum est, favet etiam quod est ab Aristotele proditum, genus scilicet testatum quoddam navigiis putrescente fœce spumosa adnasci.' (P. 173, line 47.)

[2] The fourth chapter has the following heading: 'Quod finis proprius hujus volucris generationis sit ut referat duplici suâ naturâ, vegetabili et animali, Christum Deum et hominem, qui quoque sine patre et matre, ut ille, existit.'

to a careless observer might look like the first rudiments of a bird. The feet in particular, with which these animals catch their food and convey it into the shell, are decidedly like very delicate feathers. The fact, again, that this fable of the shell-geese offered an excuse for eating these birds during Lent would, no doubt, form a strong support of the common belief, and invest it, to a certain extent, with a sacred character. In Bombay, where, with some classes of people, fish is considered a prohibited article of food,

Fig. 29.



the priests call it sea-vegetable, under which name it is allowed to be eaten. No one would suspect Linnæus of having shared the vulgar error; nevertheless, he retained the name of *anatifera*, or duck-bearing, as given to the shell, and that of *Bernicla*, as given to the goose.

I believe it was language which first suggested, or at all events strongly supported, this myth after it had once been started. We saw that the shells were regularly and properly called *bernaculæ*. We also

saw that the Barnacle geese were caught in Ireland. It was against the Irish bishops that Giraldus Cambrensis wrote, blaming them for their presumption in eating these birds during Lent; and we learn from later sources that the discovery made by the Irish priests was readily adopted in France. Now Ireland is called *Hibernia*; and I believe these birds were originally called *Hibernicæ*, or *Hiberniculæ*. The first syllable was dropt, as not having the accent, just as it was dropt in the Italian *verno*, winter, instead of *iverno*. This dropping of the first syllable is by no means unusual in Latin words which, through the vulgar Latin of the monks, found their way into the modern Romance dialects;[1] and we actually find in the mediæval Latin dictionaries the word *hybernagium* in the truncated form of *bernagium*.[2] The birds, therefore, being called *Hiberniculæ*, then *Berniculæ*, were synonymous with the shells, equally called *Bernaculæ*; and as their names seemed one, so the creatures were supposed to be one. Everything afterwards seemed to conspire to confirm the first mistake, and to invest what was originally a good Irish *canard* with all the dignity of scientific, and the solemnity of theological truth.

It should be mentioned, however, that there is

[1] Cf. Diez, *Rom. Gr.* p. 162: *rondine* = hirundo.
vescovo = episcopus.
chiesa = ecclesia.

[2] Cf. Du Cange: 'Bernagium, pro Hybernagium, ni fallor, miscellum frumentum.' See also *iernagium*, and *panis iernagii*. It. *bernia*, Fr. *bernie*, a coarse stuff for cloaks; also a cloak made of it, a rug; from Hibernia, where it was manufactured; Donkin, *Romance Dictionary*, s. v.

another derivation of the name *Bernacula*, which was suggested to Gesner by one of his correspondents.

Joannes Caius (he says) writes to me in a letter: 'I believe that the bird which we call *Anser brendinus*, others *Bernaclus*, ought to be called *Bernclacus*; for the old Britons and the modern Scots called, and call, the wild goose *Clake*. Hence they still retain the name which is corrupted with us, *Lake* or *Fenlake*, i. e. lake-goose, instead of *Fencklake*; for our people frequently change letters, and say *bern* for *bren*.' (*Historia Animalium*, lib. iii. p. 110.)

His idea, therefore, was, that the name was derived from Scotch; that in Scotch the bird was called *Brenclake*; that this was pronounced *Bernclake*, and then Latinised into *bernclacus*. There is, however, this one fatal objection to this etymology, that among the very numerous varieties of the name *Bernicula*,[1] not one

[1] The name even in Latin varies. In ornithological works the following names occur, all intended for the same bird, though I do not wish to vouch for their correctness or authenticity:

English: Bernacle, Scotch goose, Tree Geese, Brant Geese. *Scotch:* Clakis or claiks, clak-guse, claik-gees, Barnacle. *Orcades:* Rodgans. *Dutch:* Ratgans. *German:* Baumgans. *Danish:* Ray-gaas, Radgaas. *Norwegian:* Raatne-gans, goul, gagl. *Icelandic:* Helsingen. *French:* Bernache, Cane à collier. Nonnette, Religieuse; Macquerolle, (?) Macreuse. (?) *Latin:* Bernicula, Bernacula, Bernacla, Bernicla, Bernecla, Bernecela (Fred. II. Imp., *de Arte Venandi*), Bernaca, Bernicha, Bernecha, Berneca, Bernichia, Branta (ab atro colore anser scoticus), Bernesta, Barneta (Gervasius Tilb.), Barnaces (Brompton, p. 1072), Barliata (Isidorus), Barbata (Albertus Magnus). Barbata (or Barbates) may be misread for Barliata or Bachadæ.

Cf. Du Cange, s. v. *Menage*, s. v. *Bernache*. Diefenbach, *Glossarium Latino-Germanicum:* 'Galli has aves *Macquerolles* et *Macreuses* appellant, et tempore Quadragesimali ex Normannia Parisios deferunt. Sed revera deprehensum est a Batavis, anseres hosce ova parere,' &c. (Willoughby).

Another name is given by Scaliger. Julius Cæsar Scaliger, *ad Arist. de Plantis*, lib. i.:—'Anates (inquit, melius dixisset Anseres) Oceani, quas Armorici partim *Crabrans*, partim *Bernachias* vocant. Eæ creantur

comes at all near to *Bernclacus*. Otherwise *clake* or *claik* certainly means goose; and the Barnacle goose, in particular, is so called.[1] As to *bran*, it means in compounds dark, such as the A. S. *branwyrt*, blackberry, different from *brunewyrt*, brownwort, water betony; and Jamieson gives us as Scotch *branded*, *brannit*, adj., having a reddish-brown colour, as if singed by fire; a *branded* cow being one almost entirely brown. A *brant-fox* is a fox with black feet. *Branta*, we saw, was a name given to the Barnacle goose; and it was said to be given to it on account of its dark colour.

St. Christopher.

How easily in cases like this a legend grows up to remove any difficulty that might be felt at names no longer understood, can be proved by many a mediæval legend, both sacred and profane.

You know the story of St. Christopher. The *Legenda Aurea*[2] says of him that he was a Canaanite, very tall and fearful to look at.

He would not serve anybody who had himself a master; and when he heard that his lord was afraid of the devil, he left him and became himself the servant of the devil. One day, however, when passing a Cross, he observed that his new master was afraid of the Cross, and learning that there was one more powerful than the devil, he left him to enter the service of Christ. He was instructed by an old hermit, but being unable to fast or to pray, he was told to serve Christ by carrying

ex putredine naufragiorum, pendentque rostro a matrice, quoad absolutæ decidant in subjectas aquas, unde sibi statim victum quærunt: visendo interea spectaculo pensiles, motitantesque tum pedes, tum alas.'

[1] Brompton, *Chronicle of Ireland*, col. 1072, ap. Jun.

[2] *Legenda Aurea*, cap. 100.

travellers across a deep river.[1] This he did, until one day he was called three times, and the third time he saw a child that wished to be carried across the river. He took him on his shoulders, but his weight was such that he could hardly reach the opposite shore. When he had reached it, the Child said to him he had carried Christ Himself on his shoulders, in proof whereof the stick which he had used for many years, when planted in the earth, grew into a tree.

Many more miracles are said to have happened to him afterwards, till at last he suffered the death of a martyr.

It is clear, and it is not denied even by Roman Catholic writers, that the whole legend of St. Christopher sprang from his name, which means 'he who bears Christ.' That name was intended in a spiritual sense, just as St. Ignatius took the name of *Theophorus*,[2] 'he who bears God,' namely, in his heart. But, as in the case of St. Ignatius, the people who martyred him, when tearing out his heart, are said to have found it miraculously inscribed with the name of God, so the name of *Christophorus* led to the legend just quoted. Whether there was a real Christophorus who suffered martyrdom under Decius, in Lycia,

[1] According to a late Latin hymn, it was the Red Sea through which Christopher carried the travellers.

'O sancte Christophore,
Qui portasti Jesum Christum,
Per mare rubrum,
Nec franxisti crurum,
Et hoc est non mirum,
Quia fuisti magnum virum.'

[2] 'The accent placed on the penultima of *θεοφόρος*, as the word is written in the saint's acts, denotes it of an active signification, one that carrieth God; but of the passive, carried of God, if placed on the antepenultima.'—Alban Butler, *Lives of the Saints*, vol. ii. p. 1.

250 A.D., we cannot tell; but even Alban Butler, in his *Lives of the Saints* admits that 'there seem to be no other grounds than his name for the vulgar notion of his great stature, the origin of which seems to have been merely allegorical, as Baronius observes, and as Vida has expressed in an epigram on this saint:

> Christophore, infixum quod eum usque it corde gerebas,
> Pictores Christum dant tibi ferri humeris.[1]

'The enormous statues of St. Christopher, still to be seen in many Gothic cathedrals, expressed his allegorical wading through the sea of tribulations, by which the faithful meant to signify the many sufferings through which he arrived at eternal life.' Before he was called Christophorus his name was Reprobus; so says the *Legenda Aurea*. Others, improving on the legend, represent his original name to have been *Offerus*,[2] the second part of *Christoferus*, thus showing a complete misunderstanding of the original name.

St. Ursula.

Another legend, which is supposed to owe its origin to a similar misunderstanding, is that of Ursula and the 11,000 Virgins, whose bones are shown to the present day in one of the churches of Cologne. This extravagant number of martyred virgins, which is not specified in the earlier legends, is said to have arisen from the name of one of the companions of Ursula

[1] Vida, Hymn. 26, t. ii. p. 150.
[2] Maury, *Légendes pieuses*, p. 53.

being *Undecimella*[1]—an explanation very plausible, though I must confess that I have not been able to find any authority[2] for the name *Undecimella*.

Bonaventura.

It would be a great mistake to suppose that these and other legends were invented and spread intentionally. They were the natural productions of the intellectual soil of Europe, where the seeds of Christianity had been sown before the wild weeds of the ancient heathen mythology were rooted up and burnt. They are no more artificial, no more the work of individuals, than the ancient fables of Greece, Rome, or India; nay, we know that the Church, which has sometimes been accused of fostering these superstitions, endeavoured from time to time to check their rapid growth, but in vain. What happened at that time was what will always happen when the great masses are taught to speak the language before they have learnt to think the thoughts of their rulers, teachers, apostles, or missionaries. What in the mind of the teacher is spiritual and true becomes in the mouth of the pupil material and frequently false. Yet, even in their corrupt form, the words of the teachers retain their sacred character; they soon form an integral part of that foundation on which the

[1] 'L'Histoire de sainte Ursule et des onze mille vierges doit son origine à l'expression des vieux calendriers, Ursula et Undecimella, VV. MM., c'est-à-dire sainte Ursule et sainte Undecimelle, vierges et martyres.'—Maury, p. 214.

[2] Jacobus a Voragine, *Legenda Aurea*, cap. 158. Galfredus Monumetensis, lib. v. cap. 9–19. *St. Ursula und ihre Gesellschaft.* Eine kritisch-historische Monographie, von Johann Hubert Kessel. Köln, 1863.

religious life of a whole nation is built up, and the very teachers tremble lest in trying to place each stone in its right position, they might shake the structure which it took centuries to build up. St. Thomas (died 1274) asked Bonaventura (died 1271) whence he received the force and unction which he displayed in all his works. Bonaventura pointed to a crucifix hanging on the wall of his cell. 'It is that image,' he said, 'which dictates all my words to me.' What can be more simple, more true, more intelligible? But the saying of Bonaventura was repeated, the people took it literally, and, in spite of all remonstrances, they insisted that Bonaventura possessed a talking crucifix. A profane miracle took the place of a sacred truth; nay, those who could understand the truth, and felt bound to protest against the vulgar error, were condemned by the loud-voiced multitude as unbelievers.

Pictures frequently added a new sanction to these popular superstitions. Zurbaran painted a saint (Pierre Nolasque) before a speaking crucifix. Whether the artist meant it literally or symbolically, we do not know. But the crowds took it in the most literal sense, and who was the bold preacher who would tell his congregation the plain, though, no doubt, the more profound, meaning of the miraculous picture which they had once learnt to worship?

Symbols misunderstood.

It was a common practice of early artists to represent martyrs that had been executed by the sword, as carrying their heads in their hands.[1] The people who

[1] Maury, p. 207.

saw the sculptures could read them in one sense only, and they firmly believed that certain martyrs miraculously carried their heads in their hands after they had been beheaded.[1] Several saints were represented with a dove either at their side or near their ear. The artist intended no more than to show that these men had been blest with the gifts of the Holy Ghost; but the people who saw the images firmly believed that the Holy Ghost had appeared to their saint in the form of a dove.[2] Again, nothing was more usual for an artist than to represent sin and idolatry under the form of a serpent or a dragon. A man who had fought bravely against the temptations of the world, a pagan king who had become a convert to Christianity,[3] was naturally represented as a St. George fighting with the dragon, and slaying it. A missionary who had successfully preached the Gospel and driven out the venomous brood of heresy or idolatry, became at once a St. Patrick, driving away every poisonous creature from the Hibernian island.[4]

Now it should be observed how in all these cases the original conception of the word or the picture is far higher, far more reverential, far more truly religious than the miraculous petrification which excites the

[1] Maury, *Légendes pieuses*, p. 287: 'Cette légende se trouve dans les vies de saint Denis, de saint Ovide, de saint Firmin d'Amiens, de saint Maurice, de saint Nicaise de Reims, de saint Soulange de Bourges, de saint Juste d'Auxerre, de saint Lucain, de sainte Esperie, de saint Didier de Langres, et d'une foule d'autres.'

[2] Maury, p. 182: 'Et primo similis volucri mox vera volucris.'

[3] Maury, p. 135. Eusebius, *de Vitâ Const.*, ed. Heinicher, Lipsiæ, 1830, p. 150.

[4] Maury, p. 141.

superstitious interest of the people at large. If Constantine or Clovis, at the most critical moments of their lives, felt that the victory came from the hands of the Only True God, the God revealed by Christ, and preached in the cities of the whole Roman Empire by the despised disciples of a crucified Lord, surely this shows the power of Christianity in a far more majestic light than when we are told that these royal converts saw, or imagined they saw, a flag with a Cross, or with the inscription, '*In hoc signo vinces*.'[1]

If Bonaventura felt the presence of Christ in his lonely cell, if the heart of Ignatius was instinct with the spirit of God, we can understand what is meant, we can sympathise, we can admire, we can love. But if we are told that the one merely possessed a talking crucifix, and that the heart of the other was inscribed with the four Greek letters, ΘΕΟΣ, what is that to us?

Those old pictures and carved images of saints fighting with dragons, of martyrs willing to lay down their lives for the truth, of inspired writers listening intently to the voice of God, lose all their meaning and beauty if we are told that they were only men of bodily strength who chanced to kill a gorilla-like monster, or beings quite different from ourselves, who did not die, even though their heads had been severed from their trunks, or old men carrying doves on each shoulder. Those doves whispering into the ears of

[1] Similar stories are told of Alfonso, the first King of Portugal, who is said to have seen a brilliant cross before the battle of Ourique, in 1139, and of Waldemar II., of Denmark. The red cross of Denmark, the Danebrog, dates from Waldemar's victory over the Estonians in 1219. See Dahlmann, *Geschichte von Dännemark*, vol. i. p. 368.

the prophets of old were meant for the Spirit of God descending like a dove and lighting upon them; and the pious sculptors of old would have been horrified at the idea that these birds could ever be mistaken for real animals in a bodily shape, dictating to the prophets the words they should write down.

Everything is true, natural, significant, if we enter with a reverent spirit into the meaning of ancient art and ancient language. Everything becomes false, miraculous, and unmeaning, if we interpret the deep and mighty words of the seers of old in the shallow and feeble sense of modern chroniclers.

Theomenia.

There is a curious instance of mistaken interpretation which happened long before the days of Galileo. Earthquakes in later Greek were called *Theomēníai*, which literally means the Anger of God. The expression was probably suggested by the language of the Bible, where we meet with passages such as (Psalm civ. 32), 'He looketh on the earth, and it trembleth; he toucheth the hills, and they smoke.' It was in itself a most appropriate term, but it very soon lost its etymological significancy, and became the conventional and current name for earthquake. Nevertheless it kept up in people's mind the idea that earthquakes were more immediately produced by the wrath of God, and differed in this way from thunderstorms, or famine, or pestilence. Here was the source of mischief. The name of *Theomēnía*, which was quite true in its original conception, became falsified by an inadequate interpretation.

And what happened? People who, like Photius, ventured to assign natural causes that produced earthquakes, were cried down by a thoughtless multitude as unbelievers and heretics.[1]

What wild mythology may spring up even in modern languages, may be seen from the following passages, occurring in a letter in which a well-known clergyman protests against the judgment of the Privy Council as binding on the Church.

What right (he says) has the spouse of Christ (the Church) to ally herself with the powers of the world? Surely, to do so is to commit that terrible spiritual adultery against which her Lord has so often warned her. . . . A Christian state is the child of the Church. It is of the Church, in such a state, that each individual is 'begotten again of God in Christ Jesus;' it is by her that each is fed; by her prayer and blessing that all state acts seek for help from God; by her anointing that the sovereign is set apart for the high functions of government. Can we, then, defend adultery between a mother and her son? Such I believe to be, and always to have been, the nature of union between church and state.

By the side of such language the myth of Œdipus ceases to be terrible.

[1] *θεομηνία*, ira divina [Eustath. p. 891, 24]: *τὴν θεομηνίαν Διὸς λέγει μάστιγα* (Stephani Thesaurus, Didot).

Tzetzes, *Historiarum variarum Chiliades*, ed. Kiesseling, Lipsiæ, 1826, v. 727 (cf. Grote, vol. i. p. 539):—

ἂν συμφορὰ κατέλαβε πόλιν θεομηνία, εἴτ' οὖν λιμὸς, εἴτε λοιμὸς, εἴτε καὶ βλάβος ἄλλο.

Theophanes Contin. (p. 673), (Symeon Magister, *De Michaele et Theodora*):—

ἐν μιᾷ νυκτὶ συνέβη γενέσθαι σεισμοὶ μεγάλοι· καὶ αὐτὸς ὁ Φώτιος ἀναβὰς ἐπὶ τοῦ ἄμβωνος δημηγορῆσαι, εἶπεν ὅτι οἱ σεισμοὶ οὐκ ἐκ πλήθους ἁμαρτιῶν ἀλλ' ἐκ πλησμονῆς ὕδατος γίνονται. Joannes Malalas (Bonnæ, 1831), p. 249: *τῆς αὐτῆς πόλεως Ἀντιοχείας ληφθείσης ὑπὸ ἐναντίων, ὡσαύτως δὲ καὶ θεομηνίας γενομένης καὶ διαφόρων σεισμῶν καὶ ἐμπρησμῶν.*

Abstract Words.

We have lastly to consider one class of words which exercise a most powerful influence on the mind. They rule the mind instead of being ruled by it, and they give rise to a kind of mythology, the effects of which are most widely extended, even at the present day. I pointed out before, how, besides such abstract names as *virtue*, *fortune*, *felicity*, *peace*, and *war*, there are others of a slightly different character, which equally lend themselves to mythological personification. A name like the Latin *virtus* was originally intended to express a quality, manliness, the quality of a man, or rather every good quality peculiar to man. As long as this noun was used merely as a noun of quality, as an adjective changed into a substantive, no mischief could arise.

Abstract nouns were originally collective nouns, and the transition is very easy from a plural, such as 'the clercs' (clerici), to a collective or abstract noun, such as 'the clergy' (clericatus). *Humanitas* meant originally 'all men,' 'mankind'; but *kind*, literally *genus*, came, like *genus*, to express what constitutes *kind*, the qualities which all members of a kind share in common, and by which one particular kind or kin is distinguished from all other kinds or kins.

But when the mind, led away by the outward semblance of the word *virtus*, conceived what was intended merely as a collective predicate, as a personal subjective essence, then the mischief was done. An adjective had become a substantive, a predicate had been turned into a subject; and as there could

not be any real and natural basis on which this spurious being could rest, it was placed, almost involuntarily, on the same pedestal on which the statues of the so-called divine powers had been erected;—it was spoken of as a supernatural or a divine being. *Virtus*, manliness, instead of being possessed by man, was herself spoken of as possessing, as ruling, as inciting man. She became a power, a divine power, and she soon received temples, altars, and sacrifices, like other more ancient gods. Many of those more ancient gods owed their origin to exactly the same intellectual confusion. We are apt to imagine that *Day*, *Night*, *Dawn*, *Spring*, *Heaven*, *Earth*, *River*, are substantial beings, more substantial at least than *Virtue* or *Peace*. But let us analyse these words, let us look for the substantial basis on which they rest, and we shall find that they evade our touch almost as much as the goddesses of *Virtue* and *Peace*.

Erinys.

We can speak of a pebble, a daisy, a horse, or of a stone, a flower, an animal, as individual beings; and although their names are derived from some general quality peculiar to each, yet that quality is substantiated in something that exists by itself, and resists further analysis. But if we speak of the Dawn, what do we mean? Do we mean a substance, an individual, a person? Certainly not. We mean the time which precedes the rising of the sun. But then, again, what is time? What is there substantial, individual, or personal in time, or any portion of

time? Yet Language cannot help herself; all the nouns which she uses are either masculine or feminine—for neuters are of later date—and if the name of the Dawn has once been formed, that name will convey to every one, except to the philosopher, the idea of a substantial, if not of an individual and personal being. We saw that one name of the Dawn in Sanskrit was Sara*n*yû, and that it coincided literally with the Greek *Erinys*. It was originally a perfectly true and natural saying that the rays of the Dawn would bring to light the works of darkness, the sins committed during the night. We have a proverb in German:

Kein Faden ist so fein gesponnen,
Er kommt doch endlich an der Sonnen.

No thread on earth so fine is spun,
But comes at last before the sun.

The expression that the Erinys, Sara*n*yû, the Dawn, finds out the criminal, was originally quite free from mythology; it meant no more than that crime would be brought to light some day or other. It became mythological, however, as soon as the etymological meaning of Erinys was forgotten, and as soon as the Dawn, a portion of time, assumed the rank of a personal being.

Weird Sisters.

The *Weird Sisters* sprang from the same source. *Weird* meant originally *the Past.*[1] It was the name given to the first of the three *Nornas*, the German

[1] Grimm, *D. M.* p. 376; *Geschichte der Deutschen Sprache*, p. 665.

Parcæ. They were called *Urðr*, *Verðandi*, and *Skuld*, Past, Present, and Future,[1] 'das Gewordene,' 'das Werdende,' 'das (sein) Sollende.' They expressed exactly the same idea which the Greeks expressed by the thread which has been spun, the thread that passes through the fingers, and the thread that is still on the distaff; or by *Lachesis*, singing what has been (*tà gegonóta*), *Klotho*, what is (*tà ónta*), and *Atropos*, what will be (*tà méllonta*).

In Anglo-Saxon, *Wyrd* occurs frequently in the sense of Destiny or Fate.

Beowulf, v. 915: 'Gǽð â wyrd swâ hio sceal,' 'Fate goes ever as it must.'

The *Weird Sisters* were intended either as destiny personified, or as *fatidicæ*, prophesying what is to befal man. Shakespeare retains the Saxon name, Chaucer speaks of them as '*the fatal sustrin*.'

The Earth.

Again, when the ancient nations spoke of the Earth, they no doubt meant originally the soil on which they stood; but they soon meant more. That soil was naturally spoken of as their mother, that is to say, as supplying them with food; and this one name, Mother, applied to the Earth, was sufficient to impart to it the first elements of personality, if not of humanity. But this Earth, when once spoken of as an individual, was felt to be more than the soil enclosed by hurdles, or walls, or mountains.

To the mind of the early thinkers the Earth became

[1] Is *Elysium* another name for future, *Zukunft*, *avenir*, and derived from ἔρχομαι, ἦλυθον?

an infinite being, extending as far as his senses and his thoughts could extend, and supported by nothing, not even by the Elephant and the Tortoise of later Oriental philosophy. Thus the Earth grew naturally and irresistibly into a vague being, real, yet not finite; personal, yet not human; and the only name by which the ancient nations could call her, the only category of thought under which she could be comprehended, was that of a goddess, a bright, powerful, immortal being, the mother of men, the beloved of the sky, the Great Mother.

Nature.

Now, it is perfectly true that we in our modern languages do not speak any more of gods and goddesses; but have we in our scientific and unscientific vocabularies none of those nondescript beings, like Earth, or Dawn, or Future? Do we never use terms which, if rigorously analysed, would turn out to be without any substantial basis, resting like the Earth on the Elephant, and the Elephant on the Tortoise—and the Tortoise swinging in infinite space?

Take the word *Nature*. *Natura*, etymologically, means she who gives birth, who brings forth! But who is she, or he, or it? The ancient nations made a goddess of her—and this we consider a childish mistake—but what is *Nature* with us? We use the word readily and constantly, but when we try to think of Nature as a being, or as an aggregate of beings, or as a power, or as an aggregate of powers, our mind soon drops: there is nothing to lay hold of, nothing that exists or resists.

What is meant by the expression, that fruits are produced by Nature? Nature cannot be meant here as an independent power, for we believe no longer in a *Gœa* or *Tellus*, a *Mother Earth*, bringing forth the fruits on which we live (*zeídōros*). *Gœa* was one of the many names of the Divine;—is Nature more or less to us?

Let us see what naturalists and philosophers can tell us about Nature.

Buffon says:

I have always spoken of the Creator, but you have only to drop that word, and put in its place the power of Nature.

Nature (he says again) is not a thing, for it would be all; Nature is not a being, for that being would be God.

Nature is a living power (he adds) immense, all-embracing, all vivifying; subject to the first Being, it has commenced to act at His command alone, and continues to act by His consent.

Is this more intelligible, more consistent, than the fables of *Gœa*, the mother of *Uranos*, the wife of *Uranos*?

Cuvier thus speaks of Nature:[1]

By one of those figures of speech to which all languages are liable, Nature has been personified; all beings that exist have been called 'the works of Nature'; the general relations of these beings among themselves have been called 'the laws of Nature.' By thus considering Nature as a being endowed with intelligence and will, though secondary and limited in its powers, people have brought themselves to say that she watches constantly over the support of her works, that she does nothing in vain, that she always acts by the simplest means. It is easy to see the puerility of those philosophers who have conferred

[1] See some excellent articles by M. Flourens, in the *Journal des Savants*, October 1863, p. 623.

on Nature a kind of individual existence, distinct from the Creator, from the laws which He has imposed on the movement, and from the properties and forms which He has given to His creatures; and who represent Nature as acting on matter by means of her own power and reason. As our knowledge has advanced in astronomy, physics, and chemistry, those sciences have renounced the paralogisms which resulted from the application of figurative language to real phenomena. Physiologists only have still retained this habit, because, with the obscurity in which physiology is still enveloped, it was not possible for them to deceive themselves or others as to their profound ignorance of vital movements, except by attributing some kind of reality to the phantoms of their imagination.

Nature, if we believed all that is said of her, would be the most extraordinary being. She has horrors (*horror vacui*), she indulges in freaks (*lusus naturæ*), she commits blunders (*errores naturæ, monstra*). She is sometimes at war with herself, for, as Giraldus told us, 'Nature produced barnacles against Nature'; and of late years we have heard much of her power of selection.

Nature is sometimes used as meaning simply matter, or everything that exists apart from spirit. Yet more frequently Nature is supposed to be itself endowed with independent life, to be working after eternal and invariable laws. Again, we sometimes hear Nature used so as to include the spiritual life and the intellectual activity of man. We speak of the spiritual nature of man, of the natural laws of thought, of natural religion. Even the Divine Essence is not necessarily excluded, for the word *nature* is sometimes used so as to include that First Cause of which everything else is considered as an emana-

tion, reflection, or creation. Thus Dugald Stewart (vol. iii. p. 246) says:

> I need scarcely add that when I speak of the wisdom of Nature, I mean always the wisdom of the Author of Nature. The expression has the sanction of immemorial use. It is concise and sufficiently intelligible to candid inquirers; and it enables us to avoid, in our philosophical arguments, the frequent recurrence of a name which ought never to be mentioned but with sentiments of reverence.

The Supernatural.

But while *nature* seems thus applicable promiscuously to things material and spiritual, human and divine, language certainly, on the other hand, helps us to distinguish between the works of nature and the works of man, the former supplying materials for the physical, the latter for the historical sciences; and it likewise countenances the distinction between the works both of nature and of man on one side, and the Divine agencies on the other: the former being called natural and human, the latter supernatural and superhuman.

But now consider the havoc which must needs follow if people, without having clearly perceived the meaning of Nature, without having agreed among themselves as to the strict limits of the word, enter on a discussion upon the *Supernatural*. People will fight and call each other very hard names for denying or asserting certain opinions about the Supernatural. They would consider it impertinent if they were asked to define what they mean by the Supernatural; and yet it is as clear as anything can be that these

antagonists connect totally different ideas, and ideas of the vaguest character, with this term.

Many attempts have been made to define the supernatural or the miraculous, but in every one of these definitions the meaning of nature or the natural is left undefined.

Thus Thomas Aquinas explained a miracle as that which happens out of the order of nature (præter ordinem naturæ), while St. Augustine had worded his definition far more carefully in saying that we call miracles what God performs out of the usual course of nature, *as known to us* (contra cognitum nobis cursum solitumque naturæ). Others defined miracles as events exceeding the powers of nature (opus excedens naturæ vires); but this was not considered enough, because miracles should not only exceed the powers of nature, but should violate the order of nature (cum ad miraculum requiratur, nedum ut excedat vires naturæ, sed præterea ut sit præter ordinem naturæ). Miracles were actually divided into three classes — 1. Those above nature (supra naturam); 2. Those against nature (contra naturam); 3. Those beyond nature (præter naturam). But where nature ended and where the supernatural began was never explained. Thomas Aquinas went so far as to admit miracles *quoad nos*, and St. Augustine maintained that, according to human usage, things were said to be against nature which are only against the course of nature, *as known to mortals* (Dici autem humano more contra naturam esse quod est contra naturæ usum mortalibus notum). All these fanciful definitions may be seen carefully examined by Benedict XIV.

in the first part of the fourth book of his work *De Servorum Dei Beatificatione et Beatorum Canonizatione*: yet should we look in vain either there or anywhere else for a definition of what is natural.[1]

Here a large field is open to the student of language. It is his office to trace the original meaning of each word, to follow up its history, its changes of form and meaning in the schools of philosophy, in the market-place, and in the senate. He ought to show how frequently different ideas are comprehended under one and the same term, and how frequently the same idea is expressed by different terms.

These two tendencies in language, *Homonymy* and *Polyonymy*, which favoured, as we saw, the abundant growth of early mythology, are still asserting their power in fostering the growth of philosophical systems. A history of such terms as *to know* and *to believe*, *Finite* and *Infinite*, *Real* and *Necessary*, would do more than anything else to clear the philosophical atmosphere of our days.

Influence of Language on Thought.

The influence which language exercises over our thoughts has been felt by many philosophers, most of all by Locke. Some thought that influence inevitable, whether for good or evil; others supposed that it could be checked by a proper definition of words, or by the introduction of a new technical language. A few quotations may be useful to show how independent thinkers have always rebelled against the

[1] See an excellent article lately published in the *Edinburgh Review*, 'On the Supernatural,' ascribed to one of our most eminent statesmen.

galling despotism of language, and yet how little it has been shaken. Thus Bacon says:

Bacon.

And lastly let us consider the false appearances that are imposed upon us by words, which are framed and applied according to the conceit and capacities of the vulgar sort; and although we think we govern our words, and prescribe it well,—loquendum ut vulgus, sentiendum ut sapientes,—yet certain it is, that words, as a Tartar's bow, do shoot back upon the understanding of the wisest, and mightily entangle and pervert the judgment. So as it is almost necessary in all controversies and disputations to imitate the wisdom of the mathematicians, in setting down in the very beginning the definitions of our words and terms, that others may know how we accept and understand them, and whether they concur with us or no. For it cometh to pass, for want of this, that we are sure to end there where we ought to have begun, which is in questions and differences about words.

Locke.

Locke says:

I am apt to imagine that, were the imperfections of language, as the instruments of knowledge, more thoroughly weighed, a great many of the controversies that make such a noise in the world would of themselves cease; and the way to knowledge, and perhaps peace too, lie a great deal opener than it does.

Wilkins.

Wilkins, when explaining the advantages of his philosophical language, remarks:

This design will likewise contribute much to the clearing of some of our modern differences in religion; by unmasking many wild errors, that shelter themselves under the disguise of affected phrases; which, being philosophically unfolded, and rendered according to the genuine and natural importance of words, will appear to be inconsistencies and contradictions.

And several of those pretended mysterious profound notions, expressed in great swelling words, whereby some men set up for reputation, being this way examined, will appear to be either nonsense, or very flat and jejune. And though it should be of no other use but this, yet were it in these days well worth a man's pains and study; considering the common mischief that is done, and the many impostures and cheats that are put upon men, under the disguise of affected insignificant phrases.

Brown.

Among modern philosophers, Brown dwells most strongly on the same subject:

How much the mere materialism of our language has itself operated in darkening our conceptions of the nature of the mind, and of its various phenomena, is a question which is obviously beyond our power to solve, since the solution of it would imply that the mind of the solver was itself free from the influence which he traced and described. But of this, at least, we may be sure, that it is almost impossible for us to estimate the influence too highly, for we must not think that its effect has been confined to the works of philosophers. It has acted much more powerfully, in the familiar discourse and silent reflections of multitudes, that have never had the vanity to rank themselves as philosophers,—thus incorporating itself, as it were, with the very essence of human thought.

In that state of social life, in which languages had their origin, the inventor of a word probably thought of little more than the temporary facility which it might give to himself and his companions in communicating their mutual wants and concerting their mutual schemes of co-operation. He was not aware that with this faint and perishing sound, which a slight difference of breathing produced, he was creating that which was afterwards to constitute one of the most imperishable of things, and to form, in the minds of millions, during every future age, a part of the complex lesson of their intellectual existence,—giving rise to lasting systems of opinions, which, perhaps, but for the invention of this single word, never could

have prevailed for a moment, and modifying sciences, the very elements of which had not then begun to exist. The inventor of the most barbarous term may thus have had an influence on mankind, more important than all which the most illustrious conqueror could effect by a long life of fatigue, and anxiety, and peril, and guilt.

A few phrases of Aristotle achieved a much more extensive and lasting conquest; and are perhaps even at this moment exercising no small sway on the very minds which smile at them with scorn.[1]

Hamilton.

Sir W. Hamilton, in his *Lectures on Metaphysics* (ii. p. 312), remarks :—

To objects so different as the images of sense and the unpicturable notions of intelligence, different names ought to be given; and, accordingly, this has been done wherever a philosophical nomenclature of the slightest pretensions to perfection has been formed. In the German language, which is now the richest in metaphysical expressions of any living tongues, the two kinds of objects are carefully distinguished. In our language, on the contrary, the terms *idea*, *conception*, *notion*, are used almost as convertible for either; and the vagueness and confusion which is thus produced, even within the narrow sphere of speculation to which the want of the distinction also confines us, can be best appreciated by those who are conversant with the philosophy of the different countries.[2]

I shall, in conclusion, give two or three instances to indicate the manner in which I think the Science of Language might be of advantage to the philosopher.

[1] Brown, *Works*, i. p. 341.

[2] See also Stanley in his *Ordination Sermon*; and Niebuhr, *Life and Letters*, v. i. p. 57.

To Know.

Knowledge, or to know, is used in modern languages in at least three different senses.

First, we may say, a child knows his mother, or a dog knows his master. This means no more than that they recognise one present sensuous impression as identical with a past sensuous impression. This kind of knowledge arises simply from the testimony of the senses, or sensuous memory, and it is shared in common by man and animal, for a dog scents his master even better than a man recognises a friend. The absence of this knowledge we call *forgetting*—a process more difficult to explain than that of remembering. Locke has treated of it in one of the few eloquent passages of his *Essay concerning Human Understanding* (ii. 10, 5):

> The memory of some men, it is true, is very tenacious, even to a miracle; but yet there seems to be a constant decay of all our ideas, even of those which are struck deepest, and in minds the most retentive; so that if they be not sometimes renewed by repeated exercise of the senses, or reflection on those kinds of objects which, at first, occasioned them, the print wears out, and at last there remains nothing to be seen. Thus the ideas, as well as children of our youth, often die before us; and our minds represent to us those tombs to which we are approaching; where though the brass and marble remain, yet the inscriptions are effaced by time, and the imagery moulders away. The pictures drawn in our minds are laid in fading colours; and if not sometimes refreshed, vanish and disappear. How much the constitution of our bodies, and the make of our animal spirits, are concerned in this, and whether the temper of the brain make this difference, that in some it retains the characters drawn on it like marble, in others like freestone, and in others little better than sand,

I shall not here inquire: though it may seem probable that the constitution of the body does sometimes influence the memory; since we oftentimes find a disease quite strip the mind of all its ideas, and the flames of a fever, in a few days, calcine all those images to dust and confusion, which seemed to be as lasting as if graved in marble.

Secondly, we may say, I know this to be a triangle. Here we have a general conception, that of triangle, which is not supplied by the senses alone, but elaborated by reason, and we predicate this of something which we perceive at the time by our senses. We recognise a particular sensuous impression as falling under the general category of triangle. Here the difference is very clear. We not only recognise what we see, as the same thing we had seen before, but we must previously have gathered certain impressions into one cluster, and have given a name to this cluster, before we can apply that name whenever the same cluster presents itself again. This is knowledge denied to the animal, and peculiar to man as a reasoning being. All syllogistic knowledge falls under this head. The absence of this kind of knowledge is called *ignorance*.

Thirdly, we say that man knows there is a God. This knowledge is based neither on the evidence of the senses, nor on the evidence of argumentative reason. No man has ever seen God, no man has ever formed a general conception of God. Neither sense nor reason can supply a knowledge of God. What are called the proofs of the existence of God, whether *ontological*, *teleological*, or *kosmological*, are possible only after the idea of God has been realised within

us. Here, then, we have a third kind of knowledge, which imparts to us what is neither furnished by the organs of sense, nor elaborated by our reason, and which nevertheless possesses evidence equal, nay, superior, to the evidence of sense and reason.

Unless these three kinds of knowledge are carefully distinguished, the general question, How we know? must receive the most contradictory answers.

To Believe.

'To believe' likewise expresses in modern English several very different kinds of assent. When we speak of our belief in God, or in the immortality of the soul, or in the divine government of the world, we want to express a certainty independent of sense-evidence and reason, yet to those who possess it more convincing than either, evidence not to be shaken either by the report of the senses or by the weight of logical arguments. To believe, in this sense, is the strongest assent which creatures, made as we are, can give.

But when we say that we believe that Christ suffered under Pontius Pilate, or lived during the reign of Augustus, we do not intend to say that we believe this with the same belief as the existence of God, or the immortality of the soul. The assent we give to these events is totally different, and based on historical evidence, which is only a subdivision of sense-evidence, supplemented by the evidence of reason. If facts could be brought forward to show that our chronology was wrong, and that Augustus was emperor fifty years sooner or later, we should willingly give up our belief that Christ and Augustus were contem-

poraries. Belief in these cases means no more than that we have grounds, sensuous or argumentative, for admitting certain facts. I saw the revolution at Paris in February 1848: this is sense-evidence. I saw men who had seen the revolution at Paris in July 1830: this is sense-evidence, supplemented by argumentative evidence. I saw men who had seen men that had seen the revolution at Paris in July 1789: this is again sense-evidence, supplemented by argument. The same chain carries us back to the remotest times, but, where its links are weak or broken, no power of belief can restore them. It is impossible to assent to any historical facts, as such, without the evidence of sense or reason. We may be as certain of historical facts as of our own existence, or we may be uncertain. We may either give or deny our assent, or we may give our assent provisionally, conditionally, doubtfully, carelessly. But we can as little believe a fact, using to believe in its first sense, as we can reason with our senses, or see with our reason. If, nevertheless, to believe is used to express various degrees of assent to historical facts, it is of great importance to bear in mind that the word thus used does not express that supreme certainty which is conveyed in our belief in God and Immortality (*credo in*), a certainty never attainable by 'cumulative probabilities.'[1]

To believe is used in a third sense when we say, 'I believe it is going to rain.' 'I believe' here means no more than 'I guess.' The same word, therefore, conveys the highest as well as the lowest

[1] Dr. Newman, *Apologia pro Vitâ suâ*, p. 324.

degree of certainty that can be predicated of the various experiences of the human mind, and the confusion produced by its promiscuous employment has caused some of the most violent controversies in matters of religion and philosophy.

The Infinite.

The Infinite, we have been told over and over again, is a purely negative idea; it excludes only, it does not include anything; nay, we are assured, in the most dogmatic tone, that a finite mind cannot conceive the Infinite. A step farther carries us into the very abyss of Metaphysics. There is no Infinite, we are told, for as there is a Finite, the Infinite has its limit in the Finite, and cannot therefore be Infinite. Now all this is mere playing with words without thoughts. Why is infinite a negative idea? Because *infinite* is derived from *finite* by means of the negative particle *in*! But this is a mere accident; it is a fact in the history of language, and no more. The same idea may be expressed by the Perfect, the Eternal, the Self-existing, which are positive terms, or contain at least no negative element. That negative words may express positive ideas was known perfectly to Greek philosophers such as Chrysippus, and they would as little have thought of calling *immortal* a negative idea as they would have considered *blind* positive. The true idea of the Infinite is neither a negation nor a modification of any other idea.[1] The Finite, on the contrary, is in reality the

[1] On the different kinds of infinity, see Roger Bacon, *Opus Tertium*, cap. 51 (ed. Brewer, p. 194). Of the positive infinite he says: 'et

limitation or modification of the Infinite; nor is it possible, if we reason in good earnest, to conceive of the Finite in any other sense than as the shadow of the Infinite. Even language will confess to this, if we cross-examine her properly. For whatever the etymology of *finis* may be, whether it be derived from *findere* or *figere*,[1] whether it means that which cuts or that which is fixed, it is clear that it stands for something which by means of the senses is inapprehensible. We admit in mathematical reasoning that points, lines, and planes can never be presented to the eye. It is the same in the world at large. No finger, no razor, has ever touched the end of anything: no eye has laid hold of the horizon which divides heaven and earth, or of the line which separates green from yellow, or unites yellow with white. No ear has ever caught the point where one note enters into another. Our senses never convey to us anything finite or definite, their impressions are always relative, measured by degrees, but by degrees of an infinite scale. It is maintained by some authorities[2] that the ear can take in 38,000 vibrations in one second. This is the highest note. The lowest number of vibrations producing musical sound is sixteen in one second. Between these two points lies the sphere of our musical perceptions, but there is

dicitur infinitum non per privationem terminorum quantitatis, sed per negationem corruptionis et non esse.' Oxford of the nineteenth century need not be ashamed, as far as metaphysics are concerned, of Oxford of the thirteenth.

[1] Bopp, *Vergleichende Grammatik*, iii. p. 248. Schweizer, in Kuhn's *Zeitschrift*, iii. p. 357.

[2] See p. 96.

in reality a *progressus ad infinitum* on either side. The same applies to colour. Wherever we look, we never find a real end, a seizable *finis*. *Finis*, therefore, and the *Finite* express something which the senses by themselves do not supply, something that in our sensuous experience is purely negative, a name of something which, in the language of the senses, has no existence at all. But it has existence in the language of reason. Reason, which has as much right as the senses, postulates the *Finite* in spite of the senses; and when we speak reasonably, the Finite, i. e. the measures of space and time, the shades of colour, the notes of sound, &c., all these become to us the most positive elements of thought. Now it is our reason on which we pride ourselves most; we like to be called rational beings, and we are apt to look down on the other two organs of knowledge as of less importance. But there are, besides Reason, the two other organs of knowledge, Sense and Faith, all three together constituting our being, neither subordinate to the other, but all co-equal. Faith, for I can find no better name in English, is that organ of knowledge by which we apprehend the Infinite, i. e. whatever transcends the ken of our senses and the grasp of our reason. The Infinite is hidden from the senses, it is denied by Reason, but it is perceived by Faith; and it is perceived, if once perceived, as underlying both the experience of the senses and the combinations of reason. What to our reason is merely negative, the In-finite, becomes to our faith positive, the Infinite, and if our eyes are once opened, we see even with our senses straight into that endless

All by which we are surrounded on every side, and without which the fleeting phenomena of the senses and the wonderful cobwebs of our reason would be vanity, and nothing but vanity.

Philosophical Mythology.

Not even the Natural Sciences, which generally pride themselves on the exactness of their language, are free from words which, if rigorously analysed, would turn out to be as unsubstantial as Nemesis and the Erinys. Naturalists used to speak of *Atoms*, things indivisible, which are mere conceptions of the mind, as if they were real, in the sensuous sense of the word, whereas it is impossible for the senses to take cognisance of anything that cannot be divided, or is incommensurable. Chemists speak of *imponderable* substances, which is as impossible a conception as that of atoms. Imponderable means what cannot be weighed. But to weigh is to compare the gravity of one body with that of another. Now, it is impossible that the weight of any body should be so small as to defy comparison with the weight of some other body; or, if we suppose a body without weight and gravity, we speak of a thing which cannot exist in the material world in which we live, a world governed without mercy by the law of gravitation.

Every advance in physical science seems to be marked by the discarding of some of these mythological terms, yet new ones spring up as soon as the old ones are disposed of. Till very lately, *Caloric* was a term in constant use, and it was supposed to express some real matter, something that produced

heat. That idea is now exploded, and heat is understood to be the result of *molecular and ethereal vibrations.* All matter is supposed to be immersed in a highly elastic medium, and that medium has received the name of *Ether.* No doubt this is a great advance: —yet what is Ether, of which everybody now speaks as of a substance—heat, light, electricity, sound, being only so many different modes or modifications of it? *Ether* is a myth—a quality changed into a substance—an abstraction, useful, no doubt, for the purposes of physical speculation, but intended rather to mark the present horizon of our knowledge than to represent anything which we can grasp either with our senses or with our reason. As long as it is used in that sense, as an algebraic x, as an unknown quantity, it can do no harm—as little as to speak of the Dawn as Erinys, or of Heaven as Zeus. The mischief begins when language forgets itself, and when we mistake the Word for the Thing, the Quality for the Substance, the *Nomen* for the *Numen.*

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